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NUEXCO REPORT 239 FIGURES OF THE MONTH (June 30, 1988)	This Month (Report 239)	Last Month (Report 238)	12 Months Ago (Report 227)
Exchange Value ($US per pound U_3O_8)	15.10	15.40	16.90
US Premium for the Exchange Value ($US per pound U_3O_8)	0	0.60	.60
UF_6 Value ($US per kg U as UF_6)	44.00	44.75	47.75
US Premium for the UF_6 Value ($US per kg U as UF_6)	0	1.00	1.75
Transaction Value ($US per pound U_3O_8 equivalent)	15.80	16.10	17.10
Loan Rate (Per Annum)	3.5%	3.5%	3%
Conversion Value ($US per pound U as UF_6)	1.80	1.80	1.80
Near-Term Uranium Supply[1] (millions of pounds U_3O_8)	7.2	7.0	3.7
Near-Term Uranium Demand[2] (millions of pounds U_3O_8)	1.3	.9	1.0
Near-Term Supply-Demand Ratio	5.5	7.8	3.7
Recent Uranium Sales:[3]			
Number of Transactions	8	6	12
Quantity of Material (Millions of pounds U_3O_8 equivalent)	8.4	1.5	3.9
Nuexco SWU Value: ($US per SWU)[8]			
at 0.3 tails assay	68	68	73
US DOE SWU Prices: ($US per SWU)			
USEC	117.00[4]	117.00[4]	119.00[5]
AFC	153.00[6]	153.00[6]	153.00[6]
Requirements	157.00[6]	157.00[6]	157.00[6]
Incentive Price	90.00[7]	90.00[7]	90.00[7]
Market Value of Enriched UF_6[8]: ($US per kg U as UF_6)			
2.5 w/o U_{235}	405	409	441
3.0 w/o U_{235}	518	523	563
3.5 w/o U_{235}	633	639	691
4.0 w/o U_{235}	750	757	818

[1]Active inquiries to sell, for delivery within 12 months after contract signing.

[2]Active inquiries to purchase, for delivery within 12 months after contract signing.

[3]Uranium sales only; does not include loans, conversion, or SWU transactions.

[4]Effective since 10/1/87.

[5]Effective since 10/1/86.

[6]Effective since 10/1/84.

[7]Effective since 10/1/86, for up to 30% of annual requirements.

[8]Calculated using the Nuexco Exchange Value, Conversion Value, SWU Value and 0.30 percent tails assay.

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EXECUTIVE SUMMARY
REPORT 239
(All data as of June 30, 1988)

Exchange Value $15.10, down $0.30

The **Exchange Value** is **$15.10** per pound U_3O_8, down $0.30 since last month. The US Premium (relative to the Exchange Value) is $0.00, down $0.60 since last month.

UF_6 Value $44.00 down $0.75

The **UF_6 Value** is **$44.00** per kg U as UF_6, down $0.75 since last month. The US Premium (relative to the UF_6 Value) is $0.00, down $1.00 since last month.

Transactions

Eight recent natural uranium sales are reported, involving approximately **8.4 million** pounds equivalent U_3O_8. Four of these sales involved spot or near-term delivery, and met the conditions for inclusion in the Transaction Value. Active spot and near-term **uranium supply** amounts to **7.2 million** pounds U_3O_8 equivalent, up 300,000 pounds since last month. Active spot and near-term **uranium demand** totals **1.3 million** pounds, up 400,000 pounds since last month. The spot and near-term **supply-demand ratio** fell to **5.5 to 1**.

Transaction Value $15.80 down $0.30

The **Transaction Value** is **$15.80** per pound U_3O_8, **down $0.30** since last month. The calculation includes 15 transactions involving a total of more than 2.4 million pounds U_3O_8 and equivalent UF_6 and covers a period of 4 months.

Loan Rate 3.5%, unchanged

The **Loan Rate** is **3.5 percent** per annum, unchanged. No loan transactions are reported.

Conversion Value $1.80, unchanged

The **Conversion Value** is **$1.80** per pound U as UF_6, unchanged since last month. One secondary market transaction for conversion services took place this month. Active demand totals 1.05 million pounds U as UF_6.

SWU Value $68, unchanged

The **SWU Value** at .3% tails assay is **$68** per SWU, unchanged since last month. Four secondary market SWU transactions are reported this month, involving more than 300,000 SWU.

* * *

Australia

The Australian Labor Party passed two uranium-related resolutions at its Biennial conference, one of which will establish a committee to review its national uranium policies.

United States

California voters narrowly passed a resolution extending the life of the Ranch Seco nuclear power plant for an additional eighteen months.

An unprecedented agreement has been reached in Pacific Gas & Electric Company's Diablo Canyon rate case.

The US Supreme Court issued its decision on the US Producers vs. DOE lawsuit, which is significantly affecting the US premium for U_3O_8.

Analysis and Commentary

Nuexco's updated World Uranium Consumption Forecast for 1988-2000 shows a slight increase over the previous year's forecast.

Raw Materials

Technological developments in mining techniques such as shaft drilling may lead to lower production costs.

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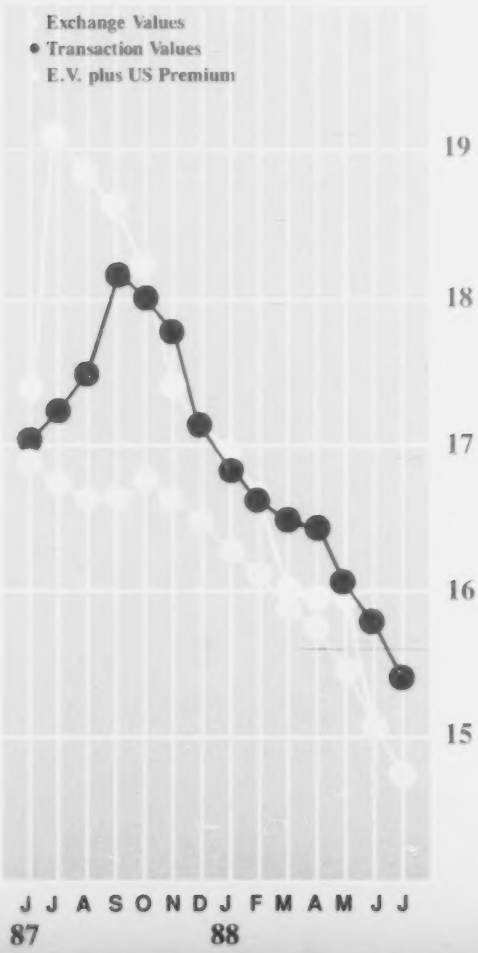
Monthly Report

August 1988 Number 240

US Nuclear Reactor Backlog 13

World Uranium Production Forecast 18

Republic of South Africa Second Quarter Production 26



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MONTHLY REPORT ON THE NUCLEAR FUEL MARKET

August 1988 No. 240

R. GENE CLARK, *EDITOR* FRANCE A. HEAD, *ASSOCIATE EDITOR*

PRICING
Nuexco Market Values Table . . . 1
Natural Uranium and Conversion . . . 2
Enriched Uranium and SWU . . . 3

CURRENT MARKET DATA
Nuexco Market Values Expressed in Selected Currencies . . . 4
Recent Transactions . . . 6
Supply and Demand Tables . . . 8

ANALYSIS AND COMMENTARY
US Nuclear Reactor Backlog . . . 13
World Uranium Production Forecast . . . 18
Graph of World Uranium Production . . . 19

RECENT DEVELOPMENTS
South Africa . . . 26

HISTORICAL MARKET DATA
Historical Exchange Values and Transaction Values . . . 28
Historical Conversion Values and UF_6 Values . . . 29
Graph of Exchange Value and Transaction Value . . . 30
US Uranium Marketing Activities Statistics . . . 31
Volume and Price of Uranium Deliveries to the European Community . . . 32

GOVERNMENT STATISTICS
Australia . . . 33
Canada . . . 34
South Africa . . . 35
United States . . . 36

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MARKET VALUES SUMMARY

July 31, 1988	Market Values	Active Supply[1] (thousands)	Active Demand[1] (thousands)
EXCHANGE VALUE[1]	$14.75/lb U_3O_8	7,915[2]	1,695[2]
US Premium[7]	- 0 -		
UF_6 VALUE[2]	$42.75/kg U as UF_6	7,915[2]	1,695[2]
US Premium	- 0 -		
CONVERSION VALUE[3]	$1.85/lb U as UF_6	0	1,365
SWU VALUE[4]			
0.3 tails assay:	$68/SWU	720	10
LOAN RATE[5]	3.5%/annum	5,600	0

	$/lb. U_3O_8	Millions of Pounds	Number of Transactions	Number of Months
TRANSACTION VALUE[6]	15.45	2.4	15	3

[1]Supply and demand tables in the *Current Market Data* section of this Report detail the numbers for each category.
[2]For either uranium concentrates or uranium hexafluoride.

DEFINITIONS

1. The **Exchange Value** is Nuexco's judgment of the price at which transactions for significant quantities of natural uranium concentrates could be concluded as of the date indicated.
2. The **UF_6 Value** is Nuexco's judgment of the price at which spot and near-term transactions for significant quantities of natural uranium hexafluoride could be concluded as of the date indicated.
3. The **Conversion Value** is Nuexco's judgment of the price at which spot and near-term transactions for significant quantities of conversion services could be concluded in the secondary market as of the date indicated.
4. The **SWU Value** is Nuexco's judgment of the price at which spot and near-term transactions for significant quantities of enrichment services could be concluded as of the date indicated.
5. The **Loan Rate** is Nuexco's judgment of the annual interest rate at which uranium loans could be concluded as of the date indicated.
6. The **Transaction Value** is a weighted average price of recent natural uranium sales transactions. The calculation is based on prices paid in:
   a. Transactions closed within the previous three month period for which delivery is scheduled within one year of the transaction date;
   b. At least ten transactions;
   c. Transactions involving a sum total of at least 2 million pounds U_3O_8 equivalent.

   The sample time is extended as necessary to include these minima. Other currencies are converted to US dollars using conversion rates in effect on or near the transaction date.
7. The **US Premium** is Nuexco's judgment of the incremental price (relative to the Exchange Value or UF_6 Value, as applicable) at which transactions for significant quantities of natural uranium could be concluded as of the date indicated, if the buyer will accept only US-origin.

DERIVATIONS AND COMMENTS

1. All Market Values are based on:
   a. Data from recently completed transactions.
   b. Data from pending transactions.
   c. Firm bids to buy or borrow, and firm offers to sell or lend.
   d. Prices purchasers or rates borrowers have expressed a willingness to pay, but for which Nuexco is not aware of firm bids to buy or borrow, and prices sellers or rates lenders have expressed a willingness to accept, but for which Nuexco is not aware of firm offers to sell or lend.
2. Prices associated with deliveries under old or renegotiated contracts or other than arm's-length transactions are not included in the determination of these Market Values.
3. In the determination of prices, Nuexco does not consider transportation charges other than those customarily provided by suppliers.
4. The prices of services or materials delivered under long-term contracts with primary suppliers are not considered in the determination of the listed values.
5. For the SWU Value, Nuexco converts SWU prices at varying tails and product assays to equivalent SWU prices at a tails assay of 0.30 weight percent U_{235} and a product assay of 3.0 weight-percent U_{235}, assuming feed costs corresponding to the Nuexco Exchange and Conversion Values determined as of the same date.
6. In calculating the Transaction Value, Nuexco does not account for the price of uranium delivered in connection with contracts which call for "market price" mechanisms. This exclusion applies particularly to contracts in which delivery prices are expressed as a function of future Exchange Values or any other indeterminate variable. Also excluded from the calculation are any other transactions in which the delivery price is defined in such a way that it cannot currently be determined.

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NATURAL URANIUM AND SECONDARY MARKET CONVERSION

(All data as of July 31, 1988)

July was an active month with ten transactions concluded, involving more than five million pounds U_3O_8 equivalent. Seven transactions were for short-term delivery, and six transactions occurred directly between producers and utilities. The secondary conversion market showed increased activity, and two transactions are near conclusion. The SWU market was quiet, with no transactions reported.

The **Exchange Value** fell to **$14.75** per pound U_3O_8, a $0.35 decrease from last month, as some producers released material for sale that was previously held in expectation of greater demand for US-origin material. Additional low-priced material is also being made available in Europe as a spin-off component of more complex transactions. The seven short-term U_3O_8 sales reported this month occurred at or near the Exchange Value. Six transactions were concluded directly between producers and utilities.

In addition, three discretionary buyers are currently evaluating bids at prices close to the Exchange Value. Because of the bidding terms specified by one of these buyers, approximately 660 thousand pounds of material must be considered off the market, pending completion of that transaction.

* * *

The **US Premium** for **U_3O_8** is **zero** for the second consecutive month, and there is currently little demand for US-origin only material. Since the Supreme Court decision, sellers of US-origin U_3O_8 have generally been willing to sell in the mainstream market. In addition, some utilities are consuming US-origin inventories that had been established and were being held in anticipation of potential non-US uranium usage restrictions.

Nevertheless, the uranium market remains unsteady because of pending legislative, judicial and political factors. On July 14, the Senate Finance Committee and the House Ways and Means Committee voted against inclusion of a uranium package in the US/Canada Free Trade Agreement (FTA) implementing legislation. The comprehensive uranium package, in the form of separate legislation, fared no better at a July 28 Senate subcommittee hearing chaired by Representative Philip Sharp (D-Indiana) where its review was unenthusiastic. The full House Ways and Means Committee is scheduled to review the legislation on August 10, but it appears unlikely that Congress will have time to consider it before adjourning on October 3.

Attention has now shifted to Canada, in response to the recent decision of the Canadian Senate to delay consideration of the FTA by blocking its approval until a national election is held. Although this action could ultimately kill the FTA, many industry participants view the Senate's obstinacy as a temporary roadblock, particularly if support for the agreement in the USA persists. The FTA goes before the Canadian Senate on August 10, while its implementing legislation is now before seven Senate committees and eight House committees in the USA. Congress has promised to act on the FTA before October 3.

On July 27, the House Ways and Means Committee conducted a favorable markup of the South African sanctions bill (H.R. 1580) that would eliminate the legal loophole currently allowing imports of South African UF_6 to the USA. It is unclear whether the bill will get to a House vote. The Senate version of the South African bill (S.2378) is expected to be marked up by the Senate Foreign Relations Committee in August, unless the Senate adopts the House bill, which was recommended by the Chairman of the Senate Foreign Relations Committee, Senator Claiborne Pell (D-Rhode Island). If adopted, the bill will be able to avoid the usual committee hearings and markups and go directly to the Senate floor for a full vote. There continues to be formidable opposition to the bill in the Senate, particularly from Senator Jesse Helms (R-North Carolina).

* * *

Active supply of natural uranium (concentrates and UF_6) for spot delivery totals **7.9 million pounds** U_3O_8 equivalent, an increase of almost 700 thousand pounds since last month. **Active demand** for natural uranium also advanced to **1.7 million** pounds. The near-term **supply-demand ratio** is **4.6:1**, compared to last month's ratio of 5.5:1. Most of the uranium supply and demand is for U_3O_8 rather than UF_6.

* * *

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The **Transaction Value** fell to **$15.45** per pound U_3O_8, a $0.35 decrease from last month. The calculation extends over a three-month period and includes 15 transactions involving approximately 2.4 million pounds U_3O_8 equivalent.

* * *

The **UF_6 Value** dropped to **$42.75** per kilogram U as UF_6, a $1.25 reduction since last month. Three UF_6 transactions, involving more than 700 thousand pounds U_3O_8 equivalent were concluded. Unusually strong demand during July was met by an abundance of low-priced supply, as each of the UF_6 transactions reported were concluded at prices below that of the previous transaction. While there is little additional near-term demand, supply remains strong. A significant amount of the available UF_6 is unacceptable to the majority of buyers due to origin concerns. As a result, these suppliers must offer it at particularly favorable prices or terms. Other UF_6 sellers have indicated a willingness to sell large quantities at prices at or near the UF_6 Value. The liberation of additional natural UF_6 as a result of enriched uranium product (EUP) transactions is expected to provide further downward pressure on prices.

* * *

The **US Premium** for **UF_6** is unchanged at **zero**. No buyers are currently specifying US-origin only UF_6, and sellers of US-origin material are willing to sell at prices competitive with material of other origins.

* * *

The **Loan Rate** remains at 3.5 percent per annum, with one loan transaction occurring at the current Loan Rate.

The **Conversion Value** increased by $0.05 to **$1.85 per pound** U in response to firmer demand in the secondary market. No conversion transactions were finalized this month, but several buyers are evaluating offers at prices near the Conversion Value. In addition, two other buyers have expressed interest in purchasing conversion services within the next six months. Because conversion services generally occur as an adjunct to other nuclear fuel transactions, conversion price terms tend to vary widely and are rarely equal to the difference between the UF_6 price and the U_3O_8 price.

ENRICHMENT SERVICES AND SWU

The **SWU Value** remained at **$68 per SWU** during a quiet month for the enrichment sector of the market. No SWU transactions are reported, although one US utility was assessing competitive offers during July for Western-origin SWUs for 1990 delivery, and is expected to make a decision in August. A few European enrichment buyers are expected to enter the market over the next several weeks, but they will be purchasing relatively small quantities.

While a few US utilities have begun to evaluate options for a portion of their 1991-1995 requirements, the utilities which did not extend their DOE commitments past 1995 still appear uninterested in contracting for that period at this early date. Those with 30 percent of requirements open from 1991-95, however, should comprise the bulk of secondary market demand for the remainder of 1988.

DOE SWUs are still available on the secondary market, with the most recent transaction reported last month. The Soviet and Chinese enrichment suppliers continue to make competitive offers, particularly in view of gaining a market share in North America, although neither seller has succeeded in arousing much buyer interest in that region.

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CURRENT MARKET DATA

EXCHANGE VALUE EXPRESSED IN SELECTED PRODUCER & CONSUMER CURRENCIES[1]

Country (currency)	per lb. U_3O_8 as Concentrates			per kg U as Concentrates		
	This Month (July 31, 1988)	Last Month (June 30, 1988)	12 Months Ago (July 31, 1987)	This Month (July 31, 1988)	Last Month (June 30, 1988)	12 Months Ago (July 31, 1987)
Australia (dollar)	18.35	19.22	23.99	47.70	49.96	62.36
Belgium (comm. franc)	574.60	575.68	642.75	1,494	1,497	1,671
Canada (dollar)	17.82	18.34	22.32	46.34	47.69	58.01
EEC (ecu)	13.11	13.26	14.99	34.09	34.46	38.97
Finland (markka)	64.98	65.40	75.38	168.93	170.02	195.98
France (franc)	92.65	92.75	103.27	240.87	241.13	268.47
FRG (mark)	27.49	27.51	31.06	71.48	71.53	80.75
Italy (lira)	20,311	20,416	22,477	52,805	53,078	58,436
Japan (yen)	1,953	2,007	2,503	5,076	5,218	6,506
Netherlands (guilder)	31.05	31.05	34.98	80.71	80.72	90.93
South Africa (rand)	35.96	35.11	34.72	93.48	91.27	90.25
Spain (peseta)	1,812	1,827	2,117	4,710	4,749	5,505
Sweden (krona)	94.13	94.55	108.27	244.71	245.81	281.49
Switzerland (franc)	22.86	22.80	25.74	59.43	59.28	66.91
UK (pound)	8.56	8.81	10.50	22.26	22.90	27.30
US (dollar)	14.75	15.10	16.75	38.35	39.26	43.55

TRANSACTION VALUE EXPRESSED IN SELECTED PRODUCER & CONSUMER CURRENCIES[1]

Country (currency)	per lb. U_3O_8 as Concentrates			per kg U as Concentrates		
	This Month (July 31, 1988)	Last Month (June 30, 1988)	12 Months Ago (July 31, 1987)	This Month (July 31, 1988)	Last Month (June 30, 1988)	12 Months Ago (July 31, 1987)
Australia (dollar)	19.22	20.11	24.77	49.96	52.27	64.41
Belgium (comm. franc)	601.87	602.36	663.85	1,565	1,566	1,726
Canada (dollar)	18.67	19.19	23.05	48.54	49.90	59.92
EEC (ecu)	13.73	13.87	15.48	35.71	36.06	40.25
Finland (markka)	68.06	68.43	77.86	176.94	177.90	202.41
France (franc)	97.05	97.05	106.66	252.30	252.31	277.29
FRG (mark)	28.80	28.79	32.08	74.87	74.85	83.40
Italy (lira)	21,275	21,363	23,215	55,311	55,539	60,354
Japan (yen)	2,045	2,100	2,585	5,317	5,459	6,720
Netherlands (guilder)	32.52	32.49	36.12	84.54	84.47	93.92
South Africa (rand)	37.66	36.74	35.85	97.92	95.50	93.21
Spain (peseta)	1,898	1,911	2,187	4,933	4,969	5,685
Sweden (krona)	98.60	98.94	111.83	256.33	257.21	290.73
Switzerland (franc)	23.95	23.86	26.58	62.25	62.03	69.11
UK (pound)	8.97	9.22	10.85	23.31	23.97	28.20
US (dollar)	15.45	15.80	17.30	40.17	41.08	44.98

[1]Calculated using currency exchange rates published in the *Wall Street Journal* on the last working day of the month.

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CONVERSION VALUE EXPRESSED IN SELECTED PRODUCER & CONSUMER CURRENCIES[1]

Country (currency)	per lb U as UF_6			per kg U as UF_6		
	This Month (July 31, 1988)	Last Month (June 30, 1988)	12 Months Ago (July 31, 1987)	This Month (July 31, 1988)	Last Month (June 30, 1988)	12 Months Ago (July 31, 1987)
Australia (dollar)	2.30	2.29	2.72	5.07	5.05	6.00
Belgium (comm. franc)	72.07	68.62	72.91	158.88	151.29	160.74
Canada (dollar)	2.24	2.19	2.53	4.93	4.82	5.58
EEC (ecu)	1.64	1.58	1.70	3.63	3.48	3.75
Finland (markka)	8.15	7.80	8.55	17.97	17.19	18.85
France (franc)	11.62	11.06	11.71	25.62	24.38	25.82
FRG (mark)	3.45	3.28	3.52	7.60	7.23	7.77
Italy (lira)	2,548	2,434	2,550	5,616	5,365	5,621
Japan (yen)	244.90	239.23	283.88	539.92	527.42	625.84
Netherlands (guilder)	3.89	3.70	3.97	8.58	8.16	8.75
South Africa (rand)	4.51	4.19	3.94	9.94	9.23	8.68
Spain (peseta)	227.22	217.73	240.17	500.93	480.02	529.49
Sweden (krona)	11.81	11.27	12.28	26.03	24.85	27.08
Switzerland (franc)	2.87	2.72	2.92	6.32	5.99	6.44
UK (pound)	1.07	1.05	1.19	2.37	2.32	2.63
US (dollar)	1.85	1.80	1.90	4.08	3.97	4.19

SWU VALUE AND UF_6 VALUE EXPRESSED IN SELECTED PRODUCER & CONSUMER CURRENCIES[1]

	SWU Value at 0.30% Tails Assay This Month (July 31, 1988)	SWU Value at 0.30% Tails Assay Last Month (June 30, 1988)	UF_6 Value per kg U as UF_6 This Month (July 31, 1988)	UF_6 Value per kg U as UF_6 Last Month (June 30, 1988)
Australia (dollar)	84.59	86.54	53.17	55.99
Belgium (comm. franc)	2,649	2,592	1,665	1,677
Canada (dollar)	82.18	82.60	51.66	53.44
EEC (ecu)	60.45	59.69	38.00	38.62
Finland (markka)	299.56	294.50	188.32	190.55
France (franc)	427.14	417.69	268.53	270.27
FRG (mark)	126.75	123.91	79.68	80.17
Italy (lira)	93,638	91,942	58,868	59,472
Japan (yen)	9,002	9,038	5,659	5,843
Netherlands (guilder)	143.13	139.83	89.98	90.47
South Africa (rand)	165.77	158.10	104.21	102.30
Spain (peseta)	8,352	8,225	5,251	5,322
Sweden (krona)	433.95	425.80	272.81	275.51
Switzerland (franc)	105.39	102.69	66.25	66.44
UK (pound)	39.47	39.67	24.81	25.67
US (dollar)	68.00	68.00	42.75	44.00

[1]Calculated using currency exchange rates published in the *Wall Street Journal* on the last working day of the month.

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CURRENT MARKET DATA

RECENT TRANSACTIONS[1]

URANIUM SALES

Nuexco Transaction Number	Delivery Period	Approximate Quantity (thousands of pounds, U_3O_8 equivalent)	Approximate Price Range as Percent of Current Exchange or UF_6 Value[2]	Seller	Buyer	Remarks
4334	1988	50-100	98-102	Producer	Utility	US Origin
4336	1988	50-100	98-102	Producer	Utility	US Origin
4337	1989	101-300	103-107	Producer	Utility	UF_6
4339	1991-97	1,001-1,500	R[3]	Producer	Utility	US Origin, Base Price Escalated
4340	1991-97	1,001-1,500	93-97	Producer	Utility	Market-Related Pricing
4341	1989	101-300	98-102	R[3]	Utility	UF_6
4342	1988	50-100	98-102	Intermediary	Utility	US-Origin UF_6
4344	1989-98	1,501-3,000	R[3]	Producer	Utility	
4345	1988	less than 50	98-102	Producer	Utility	
4346	1988	50-100	98-102	Producer	Utility	

[1] Transactions listed are not limited to those in which Nuexco was involved, but also include others of which Nuexco is aware.
[2] Where US-origin material is involved, the range is based on the Exchange Value (or UF_6 Value) *plus* the premium (relative to the Exchange Value or UF_6 Value). The range reflects five percentage points (inclusive) per grouping, centered about the middle of the range.
[3] The notation R means that Nuexco either does not know, or that Nuexco has restricted that information to protect client or source confidentiality.

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CONVERSION SERVICES
SECONDARY MARKET SALES

Nuexco Transaction Number	Delivery Period	Approximate Quantity (thousands of pounds, U equivalent)	Approximate Price Range as Percent of Current C.V.	Seller	Buyer	Remarks
No secondary market conversion sales are reported this month.						

ENRICHMENT SERVICES
SECONDARY MARKET SALES

Nuexco Transaction Number	Delivery Period	Approximate Quantity[4] (thousands of SWU)	Approximate Price Range as Percent of Current SWU Value[5]	Seller	Buyer	SWU Origin	Remarks
No secondary market enrichment sales are reported this month..							

LOAN TRANSACTIONS

Nuexco Transaction Number	Delivery Period	Approximate Quantity (thousands of pounds, U_3O_8 equivalent)	Approximate Price Range as Percent of Current Loan Rate	Lender	Borrower	Remarks
4335	1988	less than 50	98-102	Intermediary	Producer	US Origin

[1] Transactions listed are not limited to those in which Nuexco was involved, but also include others of which Nuexco is aware.
[2] Where US-origin material is involved, the range is based on the Exchange Value (or UF_6 Value) *plus* the premium (relative to the Exchange Value or UF_6 Value). The range reflects five percentage points (inclusive) per grouping, centered about the middle of the range.
[3] The notation R means that Nuexco either does not know, or that Nuexco has restricted that information to protect client or source confidentiality.
[4] If tails assay is unknown or unspecified, Nuexco's calculation of SWU quantity assumes 0.30 w/o tails assay.
[5] Prices are usually normalized to 0.30% tails assay. Refers to SWU Value that corresponds to SWUs included in transaction. When prices and SWU values are expressed as discounts from a reference price (e.g., X dollars less than DOE's USEC base price at time of delivery), the percentage price range is based on the discounted prices, not on the reference price.

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CURRENT MARKET DATA

URANIUM SUPPLY
(July 31, 1988)

Nuexco Project Number	Delivery Period[1] (Thousands of Pounds U_3O_8) Spot or Near-term[2]	Intermediate or Long-term	Remarks
Available for Sale			
ACTIVE			
87-1002	270	—	
87-1023	500	500 per year	1988-90
87-1061	1,000	700 per year	1988-91
87-1123	1,000	1,000 per year	
87-1141	500	200 per year	1989-92
87-1161	1,000	1,000 per year	UF_6
88-1000A	350	—	1988
88-1000B*	100	—	1988, UF_6
88-1001	200	200 per year	1988-91
88-1026	250	—	1988
88-1036	100	—	1988
88-1041*	680	—	1988, UF_6
88-1064	400	400 per year	1988-90
88-1078	1,200	—	1988
88-1122*	365	—	1988, UF_6
87-1001	—	500 per year	1989 on
87-1005	—	250 per year	1988-95
88-1096A	—	290	1990, UF_6e
Total	**7,915**		
INACTIVE			
87-1019	1,000	1,000 per year	1988-91
87-1053	100	500 per year	1989 on
87-1159	60	—	
88-1033A*	130	—	1988, UF_6e
88-1086*	75	—	1988
88-1120*	100	—	1988
87-1130	—	580	1989
Total:	**1,465**		

* New or revised since last month.
[1] Measured from the date of this Report.
[2] For delivery within one year. This category excludes material deliverable within one year under other than spot or near-term contracts.
Projects removed since last month: None

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URANIUM DEMAND
(July 31, 1988)

Nuexco Project Number	Delivery Period[1] (Thousands of Pounds U_3O_8) Spot or Near-term[2]	Intermediate or Long-term	Remarks
Inquiries to Purchase:			
ACTIVE			
88-1083*[3]	660	—	1988
88-1094	35	—	1988
88-1103*	250	—	1988
88-1106*	450	—	1988, UF_6
88-1115*	300	—	1988
87-1134	—	260	1989
87-1172	—	500 per year	1990 on
88-1062	—	200 per year	1990-on
88-1089	—	1,200 per year	1990-95
88-1107A*	—	100	1989, UF_6e
Total:	1,695		
INACTIVE			
87-1154A	80	—	1988, UF_6e
88-1035A*	40	—	1988, UF_6e
88-1084*	500	—	1988
88-1126*	1,400	—	1988
87-1163	—	160	1989-93
Total	**2,020**		

* New or revised since last month.
[1] Measured from the date of this Report.
[2] For delivery within one year. This category excludes material deliverable within one year under other than spot or near-term contracts.
[3] Transaction pending.
Projects removed since last month: 88-1014, 88-1044, 88-1056, 88-1060, 88-1069, 88-1100, 88-1102.

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CURRENT MARKET DATA

LOAN SUPPLY AND DEMAND
(July 31, 1988)

Nuexco Project Number	Delivery Period[1] (Thousands of Pounds U3O8) Within 1 Year	Beyond 1 Year	Remarks
Available for Loan:			
ACTIVE			
87-1012	1,000	—	
87-1157	4,000	—	
88-1057	600	—	
Total:	**5,600**		
INACTIVE			
87-1031	1,000	—	
87-1033	1,000	—	
Total:	**2,000**		
Available to Borrow:			
No inquiries to borrow are reported.			

* New or revised since last month.
[1] Measured from the date of this Report.
Projects removed since last month: None

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CONVERSION SUPPLY AND DEMAND
(July 31, 1988)

Nuexco Project Number	Delivery Period[1] (Thousands of Pounds U as UF_6) Within 3 Years	Beyond 3 Years	Remarks
Available for Sale			
ACTIVE			
No active conversion supply is reported this month.			
INACTIVE			
87-1008	770	475	1988
Total:	**770**		
Inquiries to Purchase			
ACTIVE			
88-1034*	150	600	1989-90
88-1059*[2]	165	—	1988
88-1098[2]	300	—	1989
88-1113*	660	—	1989
88-1127*	90	—	1988
Total:	**1,365**		
INACTIVE			
88-1021	65	—	
Total:	**65**		

* New or revised since last month.
[1] Measured from the date of this Report.
[2] Transaction pending.
Projects removed since last month: None.

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CURRENT MARKET DATA

SWU SUPPLY AND DEMAND
(July 31, 1988)

Nuexco Project Number	Delivery Period[1] (Thousands of SWU) Spot or Near-term[2]	Intermediate or Long-term	Remarks
Available for Sale			
ACTIVE			
87-1058*	20	—	
88-1065*	500[3]	500	1990, UF6e
87-1068	200	—	UF6e
88-1096B		55	1990, UF6e
Total	**720**		
INACTIVE			
87-1004	55	—	
87-1128	360	—	
88-1033B*	15	—	UF6e
88-1082	25	—	
Total:	**455**		
Inquiries to Purchase			
ACTIVE			
88-1085	10	—	
88-1077	—	70	1989-91
88-1107B*	—	60	1989, UF6e
Total:	**10**		
INACTIVE			
87-1154B	20	—	UF6e
88-1035B*	20	—	UF6e
Total:	**40**		

* New or revised since last month.
[1] Measured from the date of this Report.
[2] For delivery within one year. This category excludes SWU deliverable within one year under other than spot or near-term contracts.
[3] SWU supply now estimated to fall within the near-term time frame.
Projects removed since last month: None

UPDATE ON US NUCLEAR POWER PLANT BACKLOG

Introduction

The backlog of US nuclear reactors continues to diminish and, as of July 1988, only seventeen units remain, compared to 36 at January 1986 (see NUEXCO Report No. 211). Of these seventeen units, five are essentially completed and twelve are under construction (six of which have been deferred indefinitely). NUEXCO considers a unit to enter the backlog when construction starts and to exit when commercial operation begins.

Table 1 shows the current status of the seventeen reactors, which have a total electric generating capacity of 19,730 MWe, as well as two other reactors which are on order. Philadelphia Electric's (PECO) Limerick 2 achieved the most progress during the two-and-a-half-year period, and is now 91-percent complete, compared to 31-percent in January 1986. In contrast, completion percentages for Comanche Peak 1 and Perry 2 have both decreased since our last report. Nine of the units currently in the backlog are at least 90-percent completed. Tables 2 and 3 present completion percentage data on the backlogged reactors.

Table 2
COMPLETION PERCENTAGES OF UNITS IN US BACKLOG

Percent Complete[1]	Number of Units[2]
90-100	9
80-89	3
70-79	1
60-69	1
50-59	1
40-49	1
30-39	1
20-29	-
10-19	-
0-9	-
TOTAL	**17**

[1] As listed in Table 1.
[2] Excludes units on order.

Units Entering Commercial Operation since 1986

Since our last report, fifteen units have entered commercial operation, six of which came on line in 1986: Palo Verde 2, Diablo Canyon 2, Millstone 3, River Bend 1, Catawba 2, and Hope Creek 1.

During 1987, six units were declared to be commercially operating: Shearon Harris 1 (North Carolina), Byron 2 and Clinton 1 (Illinois), Vogtle 1 (Georgia), Perry 1 (Ohio), and Beaver Valley 2 (Pennsylvania).

Fermi 2, Nine Mile Point 2 and Palo Verde 3 (a total of 3,450 MWe) went into commercial operation during the first half of 1988, and South Texas 1 and Braidwood 2 received full-power licenses. South Texas 1 and Braidwood 2 are expected to enter commercial operation in late August 1988.

Nuclear Reactors in the Backlog and On Order

Comanche Peak 1 and 2

Texas Utilities Electric Company (TUEC), the 94-percent owner of Comanche Peak 1 and 2, deferred the expected commercial operation dates of these two 1,150-MWe units which are undergoing extensive re-inspection and rework for design and documentation deficiencies. Comanche Peak 1, however, is essentially complete, and TUEC now plans fuel loading in June 1989 and first commercial operation about six months later.

Unit 2, which is approximately 86-percent complete, is also being reinspected for the same faults as its twin unit and is not expected to operate until late 1991. The two-unit plant, which has an estimated cost of $9.07 billion, has been under construction for sixteen years.

An encouraging sign for Comanche Peak's future is the recent agreement reached by TUEC and the remaining intervenor, Citizens Association for Sound Energy (CASE), to drop all pending contentions concerning quality assurance and control that have held up the licensing process. The agreement, which received NRC approval, eliminates further public hearings. In exchange, the President of CASE, or her designee, will serve at least five years on the Operating Review Committee which directly oversees plant construction. In the event of a

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ANALYSIS AND COMMENTARY

Table 1
STATUS OF US NUCLEAR REACTOR BACKLOG

	Lead Utility	Type	MWe	Percent Complete 1/86	Percent Complete 7/88	Commercial Operation Date (Estimated)
Essentially Completed Units						
Braidwood 1	Commonwealth Edison	PWR	1107	59	100	August 88
Seabrook	Public Service Company of New Hampshire	PWR	1150	95	100	Indefinite
Shoreham	Long Island Lighting Co.	BWR	804	99	100	Indefinite
South Texas 1	Houston Power & Light	PWR	1239	83	100	August 88
Watts Bar 1	Tennessee Valley Authority	PWR	1177	99	100	December 90
Units Under Construction						
Comanche Peak 1	Texas Utilities Electric Co.	PWR	1150	99	94	December 89
Comanche Peak 2	Texas Utilities Electric Co.	PWR	1150	78	86	December 91
Limerick 2	Philadelphia Electric Co.	BWR	1055	31	91	December 90
South Texas 2	Houston Power & Light	PWR	1250	65	98	June 89
Vogtle 2	Georgia Power Co.	PWR	1100	53	86	June 89
Watts Bar 2	Tennessee Valley Authority	PWR	1177	85	99	Indefinite
Deferred:						
Bellefonte 1	Tennessee Valley Authority	PWR	1213	83	89	Indefinite
Bellefonte 2	Tennessee Valley Authority	PWR	1213	54	58	Indefinite
Grand Gulf 2	Mississippi Power & Light	BWR	1250	33	33	Indefinite
Perry 2	Cleveland Electric	BWR	1205	57	45	Indefinite
WNP 3	Washington Public Power Supply System	PWR	1240	75	75	Indefinite
WNP 1	Washington Public Power Supply System	PWR	1250	63	63	Indefinite
Units on Order						
Carroll County 1	Commonwealth Edison	PWR	1120	0	0	Indefinite
Carroll County 2	Commonwealth Edison	PWR	1120	0	0	Indefinite

Sources: Energy Information Administration, "Nuclear Power Plant Construction Activity 1987"; U.S. Council for Energy Awareness, "Reactor Information Report (May 23, 1988)"; utility data.

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dispute between CASE and TUEC on technical issues, the NRC will act as arbitrator. This is an unprecedented arrangement, as private citizens opposing nuclear power have never before had direct participation in a nuclear plant's construction program.

South Texas 1 and 2

Houston Lighting & Power Company's (HL&P) South Texas 1 received a full-power license from the Nuclear Regulatory Commission (NRC) in March 1988 and is now testing at 90-percent power. This unit is expected to be in commercial operation in August.

Approximately 98-percent completed, HL&P's South Texas 2, a 1,250-MWe Pressurized Water Reactor (PWR) located near Palacios, Texas, is currently undergoing hot functional testing. The unit should load fuel this December and is slated to go into operation in July 1989. In the fall, the Public Utility Commission (PUC) is expected to begin prudency hearings on both units. Construction was halted on Units 1 and 2 in 1980 after NRC reported deficiencies in the quality assurance and quality control program. In 1982, construction resumed. The cost of both units upon completion is projected to be $5.3 billion ($2,020 per kilowatt installed).

Vogtle 2

Georgia Power's Vogtle 2, the 1,100-MWe sister unit PWR of Vogtle 1 (in commercial operation since June 1987) is 86-percent complete as of June 1 and expected to begin fuel loading in March 1989, ahead of schedule. Commercial operation is anticipated to commence in June 1989. Georgia Power planned four Vogtle units in 1971, although two were cancelled in the mid-70s. Estimated construction cost of the two-unit Vogtle plant is $8.87 billion.

Limerick 2

Construction at Philadelphia Electric's (PECO) Limerick 2 is both on schedule and within budget. The 1,055-MWe Boiling Water Reactor (BWR) is approximately 91-percent complete and scheduled for fuel load in the spring of 1990 (although it could possibly be ready by late 1989). Limerick 2 was about 30-percent complete when PECO halted construction on the unit. Construction resumed about three years later, after Unit 1 went into commercial operation in February 1986. At that time, PECO set a $3.2 billion construction cost cap on Unit 2 and placed the project under a "BUILT-RITE" program, which stipulated that labor contracts could not be renegotiated during the remainder of the construction period and also contained a "no-strike" clause. According to a PECO official, the BUILT-RITE agreements have been instrumental in keeping the project under budget and ahead of schedule.

Bellefonte 1 and 2

The Tennessee Valley Authority (TVA) recently announced that its two Bellefonte units (1,213-MWe PWRs) would be indefinitely deferred as part of a massive cost-cutting measure. In order to remain competitive with private, neighboring utilities, TVA plans to slow its nuclear construction program to avoid a rate hike in 1989. TVA officials project long-term demand growth for electricity at about two percent per year and, since TVA already has surplus power, they believe the additional capacity from Bellefonte will not be needed before the twenty-first century. TVA has cancelled eight of the seventeen reactors first planned in an ambitious nuclear program in the 1970's. The Bellefonte project is currently about 75-percent complete.

Watts Bar 1 and 2

TVA elected to sacrifice, at least temporarily, the Bellefonte plant, but will move ahead with the Watts Bar twin units, although at a slower pace then previously forecast. Despite the difficulties TVA encountered with the NRC over safety and design of the two 1,177-MWe PWRs, the utility opted to complete Watts Bar rather than Bellefonte since it was further along in construction. Watts Bar 1 is essentially completed and scheduled for startup in December 1990. The operation date for Unit 2, which is approximately 99-percent finished, has been deferred indefinitely.

WNP 1 and 3

The Washington Public Power Supply System has no change in plans for the WNP-1 and WNP-3 reactors, which have been on hold since the early 1980s. WNP-1, a 1,250-MWe PWR, had construction halted when 63-percent complete, and is now under consideration for conversion to a Department of Energy (DOE) weapons production facility. No decision is expected to be made

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Table 3
CONSTRUCTION PROGRESS
ON US BACKLOG
Between January 1986 and July 1988
(Measured by Changes in Completion Percentages)

Change in Completion Percentage	Number of Units[1]
60-69	1
50-59	-
40-49	1
30-39	2
20-29	-
10-19	2
0-9	9
Negative	2
TOTAL	**17**

[1] Excludes Carroll County Units 1 and 2 which are on order.

this year on the proposal which, according to press reports, is not DOE's first choice.

WNP-3 construction was halted at 75-percent completion, and will not be restarted until substantial growth in regional power demand occurs.

Perry 2

Centerior Energy's Perry 2 has been deferred indefinitely since July 1, 1985, at 45-percent completion. Perry 1 entered service in November 1987, but its twin 1,205-MWe Unit 2's deferral was largely the result of flat rates in electricity demand growth. In addition, there are ownership issues among the four utilities that may need to be resolved prior to resuming work at the plant.

Grand Gulf 2

There has been no status change in Mississippi Power & Light's (MP&L) 33-percent completed, Grand Gulf Unit 2. Due to problems with regulatory agencies in three states over cost recovery for Grand Gulf Unit 1, MP&L is unlikely to give the go-ahead to Unit 2 in the near future.

Shoreham

Long Island Lighting Company's (LILCO) Shoreham plant was tentatively sold to an agency of the State of New York in June for $1 and will be decommissioned if the sale is consummated. The sale faces numerous obstacles, however, which still must be overcome. The New York legislature, for example, has postponed a vote on the issue in light of forthcoming elections, and New York Governor Mario Cuomo has threatened to order the State legislature into a special session in November if the vote is delayed further. In addition, the New York Public Service Commission and the NRC still must approve the agreement.

Shoreham has been operating under a low-power license but has not been granted full licensing approval due to local opposition to its required emergency planning and evacuation drill. Opponents allege that Long Island, the site of Shoreham, could never be effectively evacuated in the event of a nuclear accident.

Nonetheless, LILCO is forging ahead to obtain licensing approval for Shoreham and completed an emergency exercise in early June. According to a Federal Emergency Management Agency (FEMA) spokesman, FEMA is currently reviewing on-site and off-site capabilities and will present its findings to the NRC in mid-September. Sometime thereafter, the NRC will make a final decision on full licensing of the plant.

Seabrook

Plagued by similar political opposition to emergency planning drills as Shoreham, licensing of Seabrook remains at a standstill. An emergency planning drill took place at Seabrook in early July and, although FEMA gave a favorable preliminary report on the exercise, its final assessment will not be released before September.

Seabrook's licensing efforts may be bolstered, however, if President Reagan signs an Executive Order granting the FEMA preemptive authority to devise and implement emergency plans for nuclear plants when state or local officials refuse to participate. On July 11, the President met with a New Hampshire delegation opposing the proposal, which attempted to persuade him to reconsider the draft Order. President Reagan is expected to announce his decision in the near future.

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Carroll County 1 and 2

Commonwealth Edison's (CE) Carroll County 1 and 2 units are the only US reactors on order and not yet under construction. Designed as near replicas of Byron and Braidwood, the two PWRs are on indefinite hold, and could not be completed before the next century. CE is currently involved in disputes with the Illinois Commerce Commission on rate recovery for its final three nuclear units.

Orders for new reactors peaked in 1973 when 41 orders were placed, but the Carroll County units were the last ones made nearly a decade ago.

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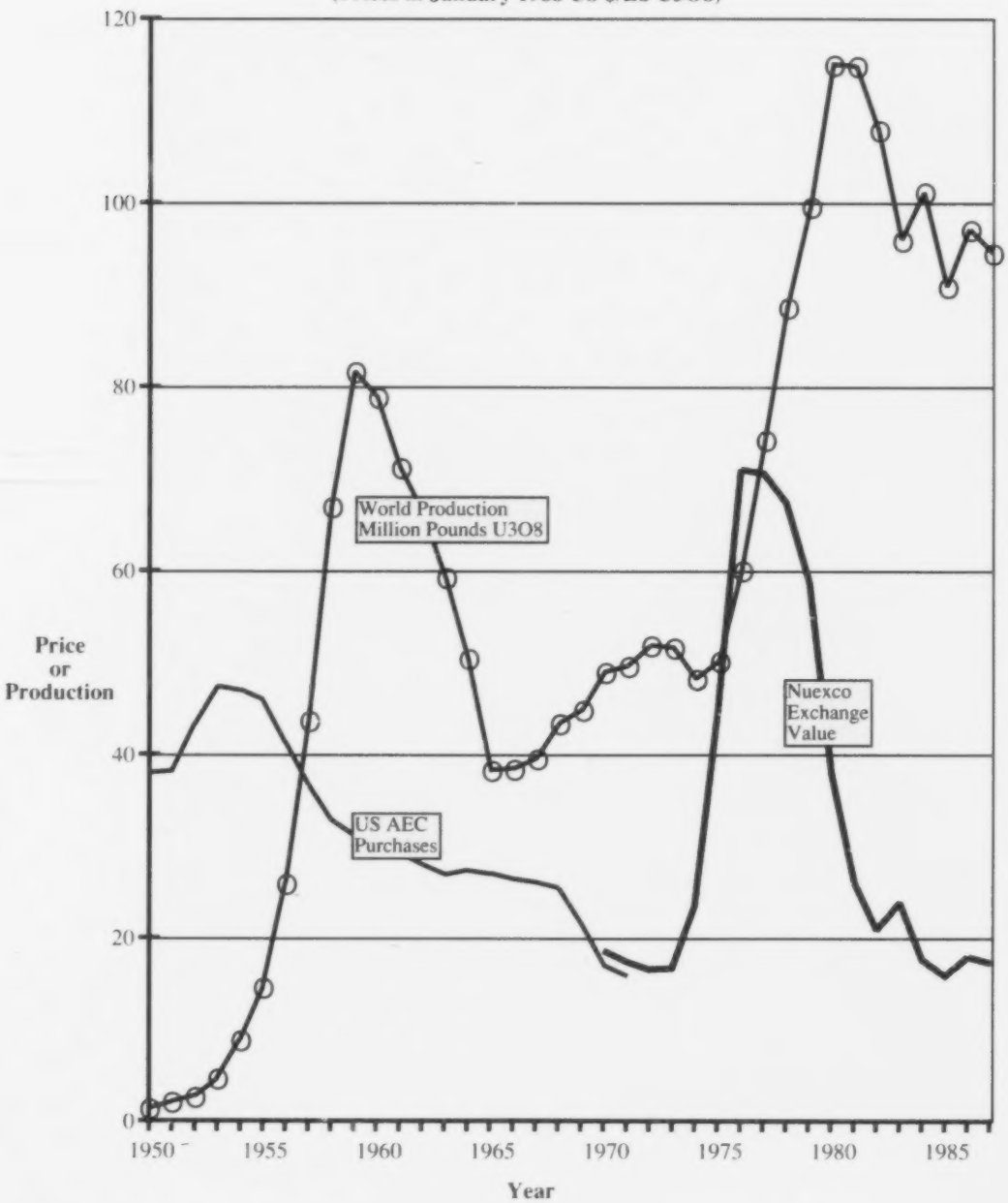
ANALYSIS AND COMMENTARY

Figure 1

URANIUM PRICE AND PRODUCTION TRENDS

(Prices in January 1988 US $/Lb U3O8)



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WORLD URANIUM PRODUCTION FORECAST 1988-2000

This article incorporates portions of the world uranium production forecast contained in NUEXCO's 1988 Uranium Market Study and Price Forecast.

Introduction

Over the past five to seven years, the uranium industry has undergone significant restructuring, as excess inventories and the slow growth in consumption have caused production to decline.

Prior to 1985, production surpassed annual consumption in every year since the nuclear power era began. In 1985, however, this trend came to an end, and now world uranium production is expected to remain below consumption for several more years as excess inventories are gradually depleted. Once inventory selling and inventory drawdown have run their course, additional production will be necessary to fulfill demand. It is clear that this additional production will not come forth at today's spot market prices (see Figure 1). Although the market price for uranium and production costs will significantly affect the number of players entering or reentering the industry as well as individual production levels at that time, political developments will have the most impact on the distribution of production.

Current Political Uncertainties

Perhaps at this time more than any other, many political uncertainties threaten to shake up the current geographical distribution of uranium production. Some of the most prominent uncertainties facing uranium producers today include:

- the proposed US-Canada Free Trade Agreement,
- more restrictive economic sanctions against South Africa (enforced by the USA and other countries),
- the US Producers vs. DOE lawsuit - possible enrichment restrictions on foreign uranium in USA,
- the proposed US Government $750 million purchase program of domestic uranium,
- possible changes in the Australian floor price and three-mine policies,
- The merger of Canada's two largest uranium producers, Saskatchewan Mining Development Corporation and Eldorado Nuclear, Inc., and
- the tentative independence of Namibia which could result in ten percent of the world's production becoming more marketable.

In addition, the following market variables will have the most immediate effect on distribution and production levels over the next thirteen years:

- the length of time over which large inventories held by utilities and governments will be offered into the market, and
- whether low uranium prices will prevail and preclude recovering the high investment cost of new projects.

Table 4
UNDEVELOPED AUSTRALIAN URANIUM DEPOSITS

Deposit	Ore Reserves Million Pounds U_3O_8	Ore Grade Percent U_3O_8
Anderson	7	0.20
Ben Lomond	10	0.16
Beverly	36	0.24
Bigryli	4	0.35
Honeymoon	7	0.16
Jabiluka	440	0.39
Kintyre	60	0.25
Koongarra	66	0.34
Lake Way	6	0.09
Mt. Painter	8	0.10
Officer Basin	22	No estimate
Skal	8	0.14
South Frome Group	11	No estimate
Valhalla	7	0.19
Westmoreland	25	0.17
Yeelirrie	115	0.15

NUEXCO's Production Forecast

NUEXCO's world uranium production forecast for 1988-2000 shows a total of 1.6 billion pounds U_3O_8 compared to a projected world uranium production capability of 1.8

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ANALYSIS AND COMMENTARY

Figure 2
WORLD PRODUCTION FORECAST
1988-2000

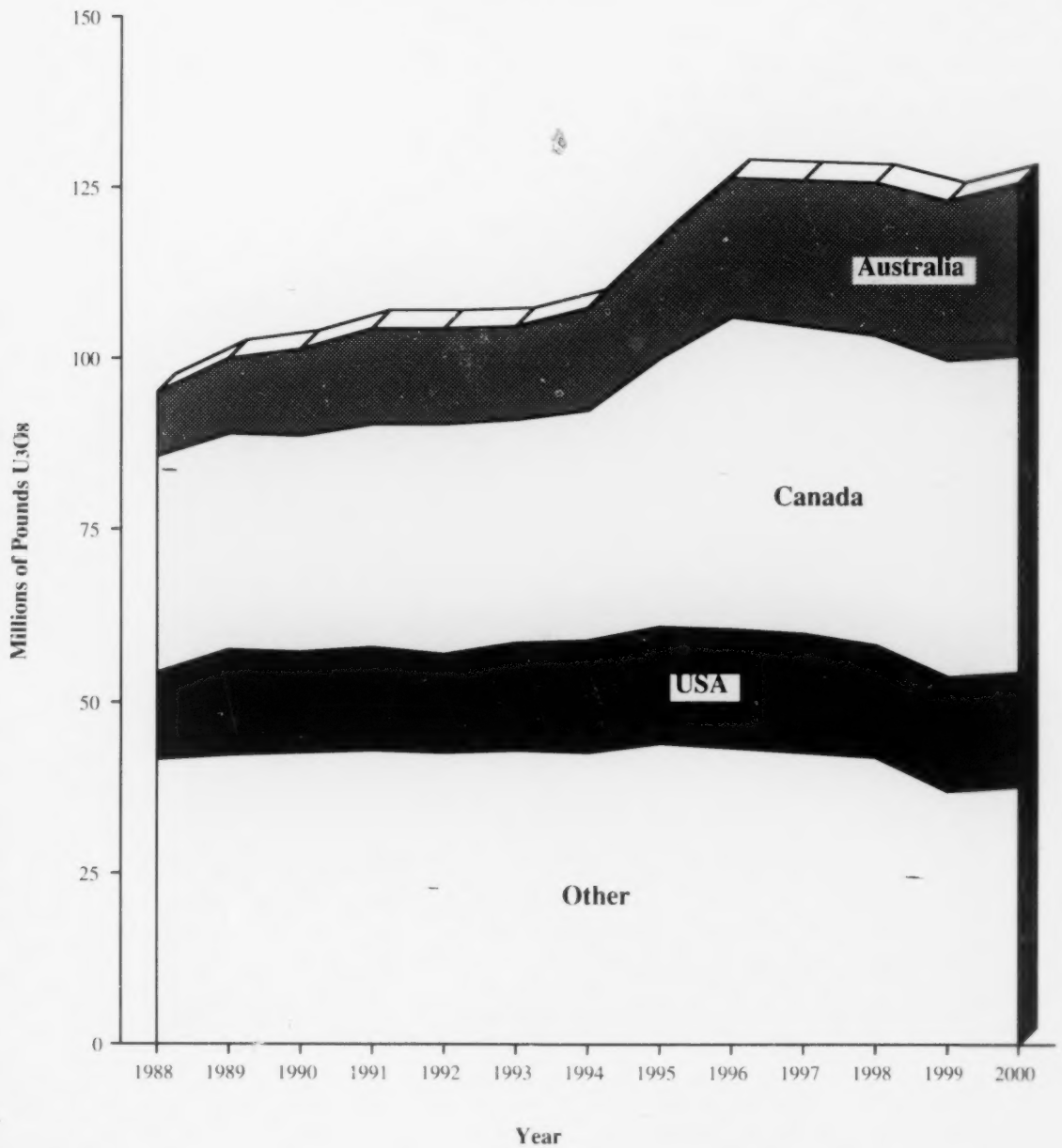

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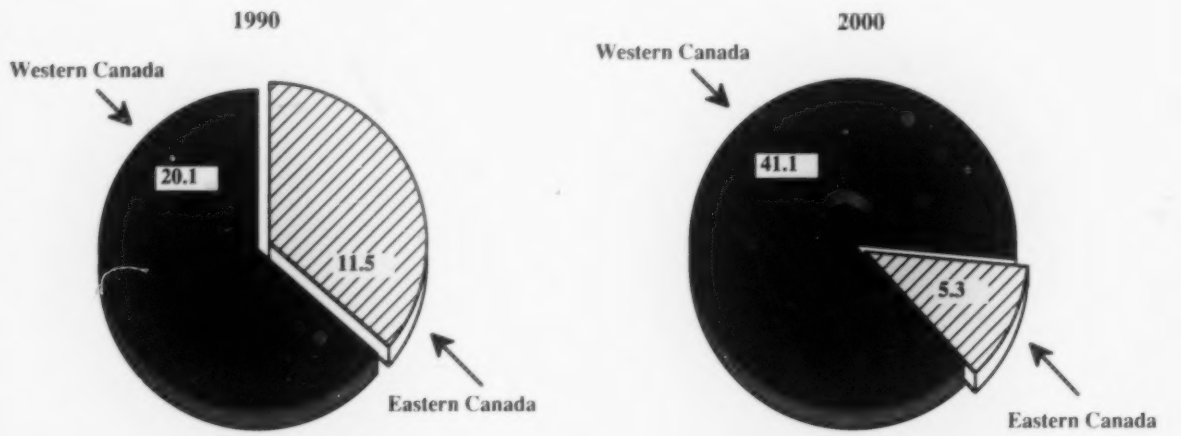
Figure 3
URANIUM PRODUCTION IN CANADA (Millions of Pounds U_3O_8)



billion pounds U_3O_8. Figure 2 shows projected uranium production by area.

Australia

Australia's uranium production industry appears likely to expand in the years ahead, though the precise rate and timing remain uncertain. At its biennial conference in June 1988, the Australian Labor Party (ALP) voted to review its uranium policies, providing fresh evidence of the ALP's willingness to recognize and deal with the realities of international uranium commerce.

In the Northern Territory, Queensland Mines (QML) has completed milling the stockpiled high-grade ore recovered from the Nabarlek deposit and, during the balance of 1988, will be processing some remaining lower-grade material. Assuming needed approvals are forthcoming as expected, development of the nearby Nabarlek II deposit will, beginning in 1989, provide ore for continued U_3O_8 production. It is also reported, though not confirmed, that QML will soon be in a position to resume investigation of previously-identified and very promising anomalies in the area surrounding the Nabarlek mill.

Energy Resources of Australia's (ERA) Ranger operation at Jabiru is projected to expand from its current level of seven million pounds U_3O_8 per year to ten million pounds in 1991 and to thirteen million by 1996. ERA continues to be an aggressive marketer, having signed thirteen long-term supply contracts with US utilities.

In South Australia, the Olympic Dam project is in a start-up mode, and while ore crushing has commenced, the first uranium output is not expected until early September. Olympic Dam's initial production rate is planned at four million pounds U_3O_8 per year, although only half of that amount is currently committed under long-term contracts.

Four other major projects (Jabiluka, Koongarra, Kintyre and Yeelirrie) are in the advanced planning stage and, assuming government approval to proceed, could increase Australia's production capability by as much as fourteen million pounds U_3O_8 by the year 2000. Table 4 shows the undeveloped uranium deposits in Australia.

Canada

Canada is and will continue to be the leading uranium producing country in the world, provided the Australian government policy does not dramatically change in the near term. Canadian production in 1987 totalled 32.3 million pounds U_3O_8, or about one-third of world production. The Canadian government has shown increased support for uranium development by reducing its Canadian ownership requirements for uranium project development from 67 percent to 51 percent (or even less,

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Table 5
KNOWN UNDEVELOPED URANIUM DEPOSITS IN SASKATCHEWAN

Deposit	Ownership	Identified Resources (Million lbs U3O8)	Average Grade (% U3O8)	Approximate Depth (feet)
Cigar Lake	48.750% — SMDC 32.625% — Cogema 12.875% — Idemitsu 3.750% — Corona Grande 2.000% — KEPCO	385	11.6	1,400
Dawn Lake	100% — SMDC	30	1.8	400
Eagle North	33.33% — Eldorado 33.33% — SMDC 33.33% — Noranda	58	2.1	900
Eagle South	100% — Eldorado	75	1.6	1,100
McClean Lake	50% — Canadian Oxy 50% — Inco	14	1.8	500
Midwest	45% — Denison 20% — Bow Valley 20% — Midwest/Mink Mining 15% — Uranerz	57	1.3	700

provided Canadians maintain a "controlling interest" when Canadian partners cannot be found).

Historically, the province of Ontario (eastern Canada), with its extensive low-grade uranium deposits, dominated Canadian production. Saskatchewan production (western Canada) now holds the lead due to its high-grade, low-cost deposits, and this trend is projected to continue. The major Saskatchewan operation is Key Lake, but through the forecast period other major projects will include Cigar Lake, Dawn Lake, McClean Lake, Eagle, and Midwest (Table 5). After 1990, western Canadian production is forecast to rise rapidly, almost doubling over thirteen years, while output from eastern Canada (Denison, Panel, New Quirke, and Stanleigh mines) should be cut nearly in half during the same period. The eastern Canadian producers, Denison Mines and Rio Algom, have long-term supply contracts that, unless reduced in the next decade, will extend well into the next century, thus ensuring their continued success. However, Ontario Hydro has reduced some deliveries scheduled under its contracts, and is likely to continue its attempts to reduce its large inventories by reducing deliveries from higher-priced contracts. Figure 3 depicts NUEXCO's uranium production forecast in 1990 and the year 2000 for eastern and western Canada.

China

China's growing presence in the uranium market may provide more than five million pounds U_3O_8 per year by the year 2000, as its production capability and sizeable stockpile will enable it to compete with low-cost producers. Although its production costs are unknown, China's desire for western currency should provide sufficient incentive for its entry into the worldwide market.

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France

There are currently only two companies actively producing uranium in France: Cogema produces approximately 7.1 million pounds U_3O_8 per year, and Total-Compagnie Française des Petroles produces approximately 1.4 million pounds annually. Since French production typically comes from small open-pit and underground mines that are milled centrally, NUEXCO believes these mines will play a progressively smaller role as additional lower-cost uranium becomes available from foreign sources.

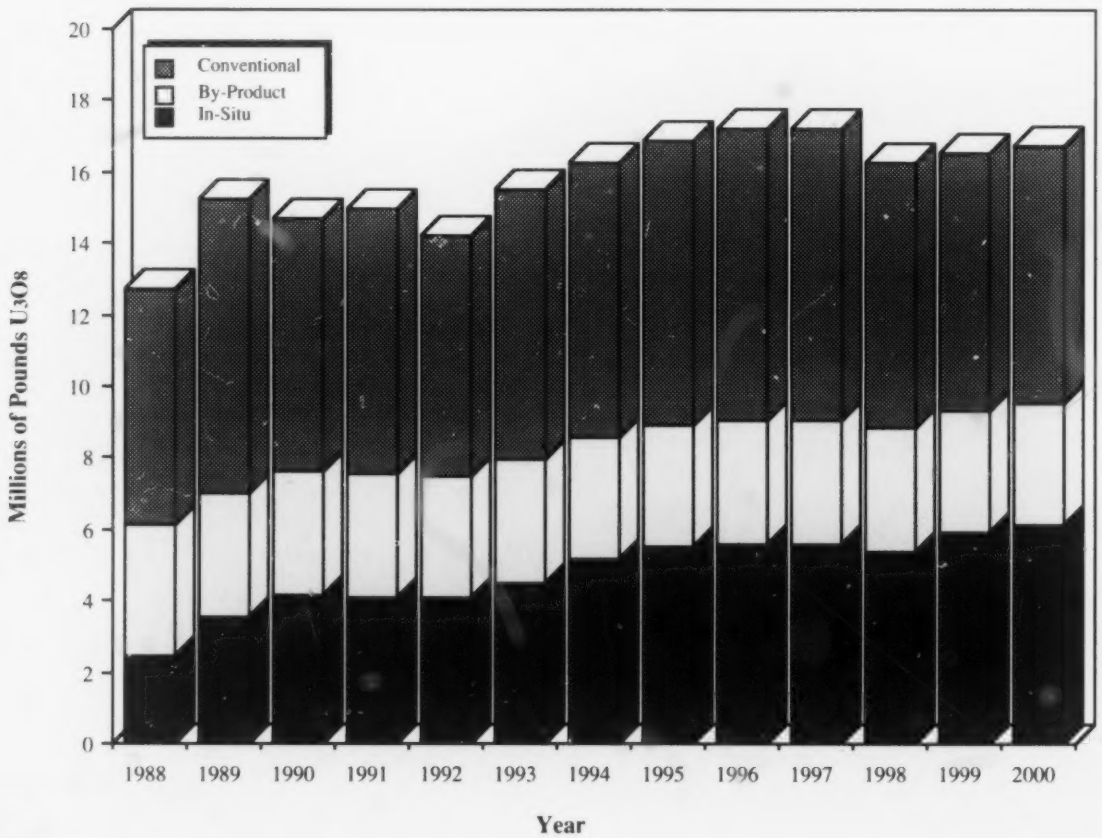
Gabon

A fairly efficient producer with large reserves, Gabon is likely to increase its uranium output over the next thirteen years. In 1987, Gabon produced about 50 percent of its rated capacity, or about two million pounds U_3O_8.

Namibia and South Africa

Despite the economic sanctions and political pressures many countries have enforced on South Africa and Namibia to discourage apartheid, production is expected

Figure 4
FORECAST OF US URANIUM PRODUCTION
By Category



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to remain at or near current levels because of ineffective sanctions. South Africa will consistently produce about ten million pounds per year through the end of the century unless more stringent and widespread political sanctions preclude additional sales. The producers in southern Africa have low-cost operations and can compete effectively on the world market, particularly in conjunction with the devaluation of the South African Rand.

If Namibia acquires its independence from South Africa, as is now under discussion, roughly ten percent of the world's uranium production may soon be accessible to most markets since the stigma of being classified as South African material will disappear. Having benefitted greatly from devaluation of the Rand and from increased operating efficiencies during the last several years, Rossing is expected to operate near its capacity of twelve million pounds per year through the year 2000.

Niger

Production from Niger is expected to continue its decline as the Somair operation at Arlit faces increasing difficulties in maintaining output at previous levels because of decreasing ore grades and increasing costs.

United States

The US production forecast presented here is based on a free-market scenario and is expected to increase from its present level of 12.5 million pounds to 15 million pounds in 1989, and to stabilize at the 17-million pound range through the end of the century. Overall, production emphasis in the USA is expected to switch from large-scale projects to flexible low-cost production from many smaller producers.

Conventional mining operations in the USA will only be feasible for a small group of cost-effective producers in the near to mid-term, and the average grade of conventionally-mined ores for the remainder of the decade is expected to be approximately 0.50 percent U_3O_8.

Solution mining will have a magnified role in future US production through a number of small to medium-sized projects. By 1990, several new US solution mining projects are expected to be in operation (see Table 6).

Uranium as a by-product from phosphoric acid production in the USA is under some pressure as most production costs remain in excess of the spot price for U_3O_8. No new major production centers are expected to come on stream in the foreseeable future. Figure 4 shows the forecast of uranium production by category in the USA through the year 2000.

Table 6
US SOLUTION MINING PROJECTS PLANNED

Project Name	Owner	Operation Date
Christensen Ranch (Wyoming)	Malapai Resources	1989
Crow Butte (Nebraska)	Ferret Exploration	1990
Churchrock (New Mexico)	Uranium Resource Inc.	1990

Other Countries

A number of other countries produce small quantities of uranium primarily to supply their own needs. These countries include Argentina, Belgium, Brazil, India, Pakistan, Portugal, Spain and Yugoslavia. Marginal increases at best are foreseen for these producers.

Conclusion

This production forecast from NUEXCO's Uranium Market Study is based on long-term prices that are considerably higher than today's spot market prices, although they are lower in constant-dollar terms than the previous historical peak in spot prices. Historical data support the notion that prices in new contracts signed for long-term delivery (for contracts specifying prices) have generally reflected a premium over spot market prices that were prevalent at the time of contract signing. Required production increases will be possible, but not at today's spot price level.

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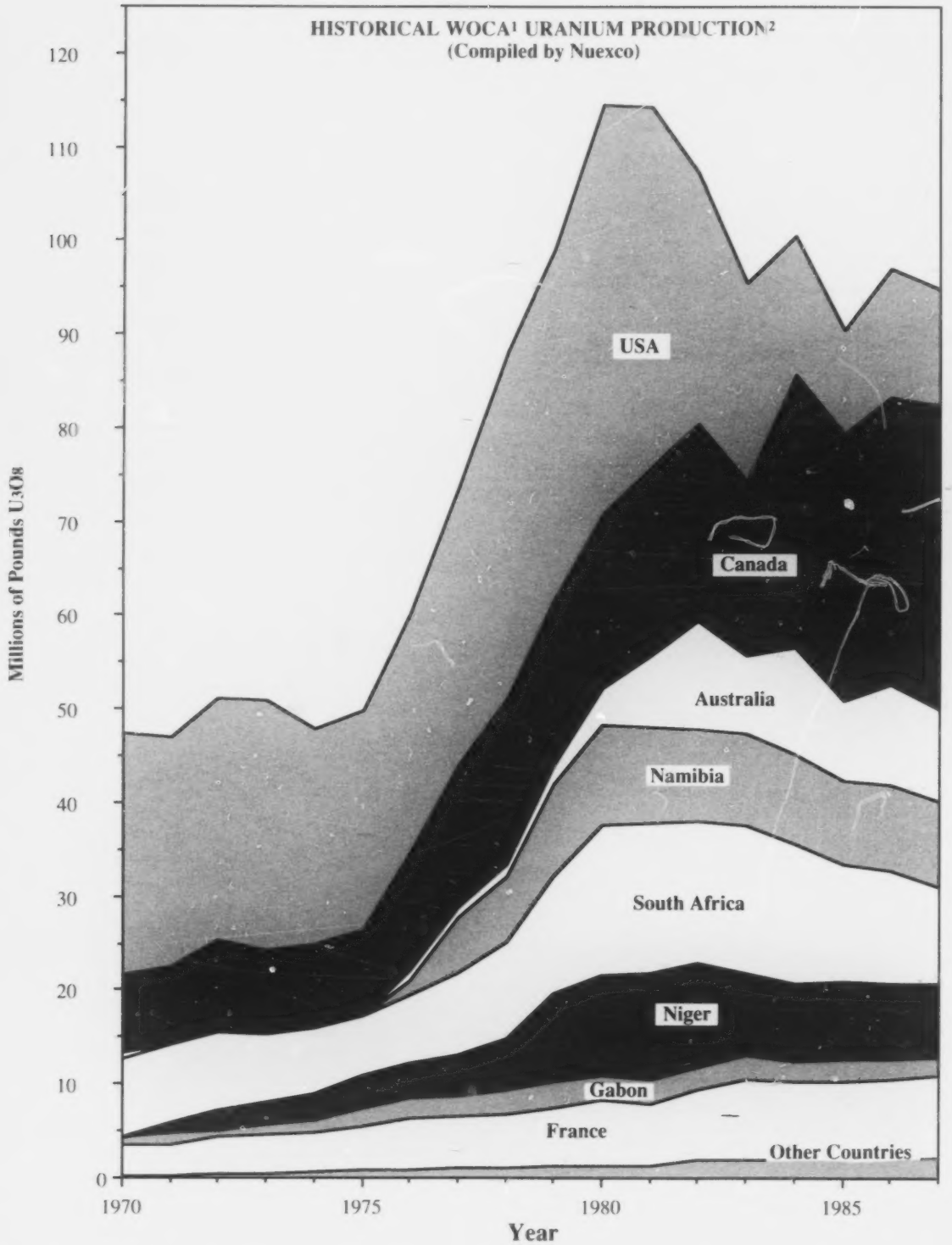

[1] WOCA = World Outside of Centrally-Planned Economic Areas.
[2] 1987 production data are preliminary.

RECENT DEVELOPMENTS

SOUTH AFRICA

Second quarter output from South African Chamber of Mines producers totalled 2,607,894 pounds U_3O_8, a 4.37 percent increase over the first quarter of 1988.

Six mines showed higher production levels, three of which were up by more than ten percent. Buffelsfontein reported the greatest increase over last quarter of 15.5 percent, while Driefontein Consolidated had the most dramatic decline in production — 22.7 percent.

Randfontein experienced a 12-percent decrease in production due to difficulties in maintaining recovery grades. Contract discussions are now underway with Randfontein's major customer, the French nuclear agency, which financed construction of the Ranfontein uranium recovery plant.

The pay dispute between South Africa's National Union of Mineworkers and the Chamber of Mines was resolved this month, and the Union agreed to accept a sliding scale wage increase of 13 to 16.5 percent. This marks the lowest wage increase in years, barely above South Africa's current 13.4-percent inflation rate. The agreement also provides for the establishment of a provident fund for black mineworkers. One year ago, a lengthy strike called by the Mineworkers Union appreciably disrupted South African production.

Table 7
REPUBLIC OF SOUTH AFRICA
RECENT URANIUM PRODUCTION[1]
(Thousands of Pounds U308)

First Quarter Operation	Third Quarter 1987	Fourth Quarter 1987	First Quarter 1988	Second Quarter 1988	Percent Change[2]
Buffelsfontein	240	229	214	247	+15.5
Driefontein Consolidated	42	36	40	31	-22.7
ERGO[3]	85	93	104	99	-5.4
Freegold[4]	245	223	257	284	+10.8
Harmony	97	90	88	89	+.5
Hartebeestfontein	223	219	212	202	-4.6
Randfontein	148	259	249	219	-12.0
Stilfontein (Chemwes)	232	239	255	272	+6.8
Vaal Reefs	768	927	977	1,052	+7.7
Western Areas	124	98	102	112	+10.3
TOTAL[5]	**2,184**	**2,467**	**2,499**	**2,608**	**+4.37**

[1]Excludes Palabora Mining Company, which is not a member of the Chamber of Mines.
[2]Change in percent from the fourth quarter of 1987.
[3]ERGO = East Rand Gold and Uranium Company Ltd.
[4]Formerly Free State Joint Metallurgical Scheme.
[5]Columns may not add up due to rounding.

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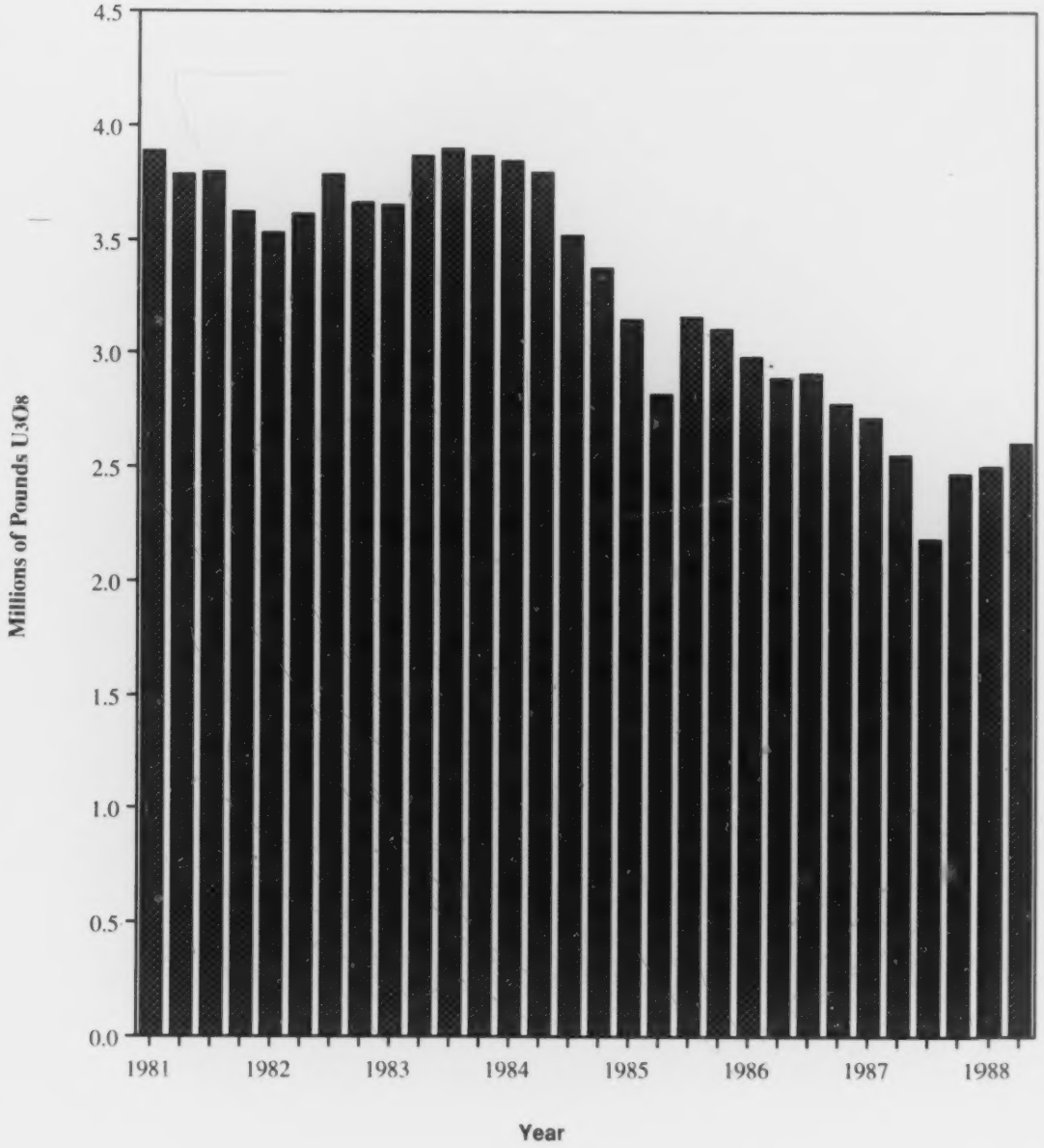
Figure 5
REPUBLIC OF SOUTH AFRICA
QUARTERLY URANIUM PRODUCTION



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HISTORICAL MARKET DATA

HISTORICAL EXCHANGE VALUES
Determined as of the last day of the month indicated ($US/lb. U_3O_8)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1968	—	—	—	—	—	—	—	6.35	6.35	6.40	6.45	6.50
1969	—	6.35	6.10	6.10	6.25	6.25	6.20	6.20	6.15	6.15	6.15	6.20
1970	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.20	6.15	6.15	6.15	6.15
1971	6.20	6.20	6.20	6.20	6.15	6.05	6.00	5.95	5.95	5.95	5.95	5.95
1972	5.95	5.95	5.95	5.95	5.95	5.95	5.95	5.95	5.95	5.95	5.95	5.95
1973	5.95	6.00	6.10	6.20	6.45	6.50	6.50	6.50	6.50	6.50	6.75	7.00
1974	7.70	7.90	8.00	9.00	9.50	10.50	11.50	12.00	12.50	14.00	14.75	15.00
1975	16.00	16.00	18.00	20.00	21.00	23.00	24.70	26.00	26.00	28.50	30.00	35.00
1976	35.20	37.00	39.25	40.00	40.00	40.00	40.00	40.40	41.00	41.00	41.50	41.00
1977	41.35	41.50	41.60	41.60	42.00	42.25	42.25	42.25	42.40	42.75	43.20	43.20
1978	42.90	43.25	43.25	43.25	43.40	43.40	43.40	43.10	43.25	43.00	43.25	43.25
1979	43.25	43.25	43.25	43.25	43.25	43.00	42.70	42.70	42.20	42.20	41.00	40.75
1980	40.00	38.00	35.00	32.00	32.00	31.50	31.50	30.00	28.50	28.00	28.00	27.00
1981	25.00	25.00	25.00	25.00	25.00	24.25	23.50	23.50	23.50	23.50	23.50	23.50
1982	23.00	23.00	22.50	20.75	20.50	19.25	18.25	17.00	17.00	17.50	19.75	20.25
1983	21.50	21.75	22.25	23.25	23.50	23.50	24.00	24.00	24.00	23.50	22.50	22.00
1984	20.50	17.50	17.00	17.75	17.75	17.50	17.50	17.50	17.50	16.00	15.50	15.25
1985	15.00	15.00	15.00	14.25	15.00	15.00	15.75	16.00	16.00	16.50	16.75	17.00
1986	17.00	17.00	17.25	17.25	17.00	17.00	17.00	17.00	17.00	17.00	16.75	16.75
1987	16.65	16.75	17.00	17.00	17.00	16.90	16.75	16.65	16.65	16.75	16.65	16.55
1988	16.30	16.15	15.90	15.75	15.40	15.10	**14.75**					

HISTORICAL US PREMIUM (Relative to the Exchange Value)
Determined as of the last day of the month indicated ($US/lb. U_3O_8)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1986	—	—	—	—	—	—	—	—	—	—	0.65	0.75
1987	0.85	1.00	1.50	1.50	0.90	0.60	2.50	2.35	2.10	1.65	0.85	0.65
1988	0.70	0.50	0.15	0.25	0.60	0.00	**0.00**					

HISTORICAL TRANSACTION VALUES
Determined as of the last day of the month indicated ($US/lb. U_3O_8)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1976	—	—	—	—	39.60	39.70	39.70	40.40	40.30	40.60	40.70	40.70
1977	41.30	41.30	41.40	41.50	42.80	42.90	43.00	42.60	42.50	42.80	42.90	42.90
1978	43.10	43.30	43.70	43.60	43.60	43.20	43.30	43.40	43.40	43.60	43.40	43.70
1979	43.60	43.80	43.70	43.40	43.60	43.70	43.70	43.60	43.60	43.60	43.50	42.30
1980	42.00	39.30	38.60	38.40	37.90	37.60	37.30	31.30	30.60	29.00	28.70	27.70
1981	27.20	27.20	27.00	25.70	25.70	24.50	24.40	24.30	23.90	24.10	24.10	24.00
1982	24.00	23.70	23.40	22.60	22.70	21.50	20.30	19.10	17.30	17.00	17.55	18.80
1983	19.35	20.00	21.35	21.40	22.35	22.45	23.50	23.60	23.65	23.65	23.85	23.85
1984	23.05	22.50	19.25	17.90	17.00	16.50	16.60	16.40	16.55	16.05	15.90	15.90
1985	16.20	15.70	15.05	14.90	14.45	14.60	14.75	15.10	15.10	15.75	15.80	16.55
1986	16.55	16.70	16.70	17.10	17.05	17.20	17.50	17.45	17.35	17.25	17.30	17.35
1987	17.35	16.90	16.95	17.00	17.20	17.10	17.30	17.55	18.20	18.05	17.80	17.20
1988	16.85	16.65	16.55	16.45	16.10	15.80	**15.45**					

HISTORICAL CONVERSION VALUES

Determined as of the last day of the month indicated ($US/lb. U as UF_6)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1981	1.20	1.20	1.20	1.40	1.15	1.15	1.15	1.10	1.10	1.10	1.20	1.20
1982	1.20	1.20	1.20	1.20	1.00	1.00	1.00	0.90	1.10	1.60	1.45	1.45
1983	1.20	1.40	1.40	1.20	1.20	1.20	1.10	1.10	1.00	0.60	0.60	0.60
1984	0.60	0.30	0.80	0.80	0.80	0.80	0.00	0.80	1.00	1.00	0.80	0.80
1985	1.00	1.00	1.00	1.50	1.50	1.60	1.60	1.60	1.60	1.60	1.60	1.60
1986	1.60	1.80	1.90	1.80	1.80	1.80	1.80	1.90	1.90	1.90	1.80	1.80
1987	1.80	1.80	1.80	1.80	1.80	1.80	1.90	1.90	1.90	1.90	1.90	1.90
1988	1.90	1.80	1.80	1.80	1.80	1.80	**1.85**					

HISTORICAL UF_6 VALUES

Determined as of the last day of the month indicated ($US/kg. U as UF_6)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1985	—	—	—	40.50	42.50	42.50	44.00	44.50	44.50	46.00	46.00	47.00
1986	47.00	48.00	48.00	48.50	48.25	48.25	48.25	48.00	48.00	48.00	48.00	47.75
1987	47.75	48.00	48.00	48.00	47.75	47.75	47.50	47.00	46.75	47.00	47.00	47.00
1988	46.50	46.00	45.50	45.25	44.75	44.00	**42.75**					

HISTORICAL US UF_6 PREMIUM (Relative to the UF_6 Value)

Determined as of the last day of the month indicated ($US/kg U as UF_6)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1986	—	—	—	—	—	—	—	—	—	—	2.50	2.50
1987	2.50	2.50	3.50	3.00	2.25	1.75	6.50	6.00	4.25	3.10	2.25	2.00
1988	1.25	1.25	0.50	0.50	1.00	0.00	**0.00**					

HISTORICAL SWU VALUES (at 0.30 Percent Tails Assay)

Determined as of the last day of the month indicated ($US per SWU)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1986	80	80	80	80	75	78	78	78	78	78	80	80
1987	80	80	77	77	75	73	75	75	73	69	73	73
1988	73	73	70	68	68	68	**68**					

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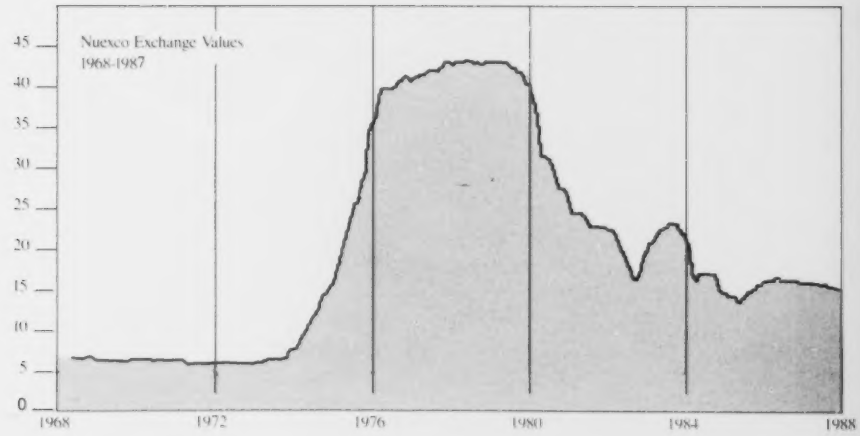
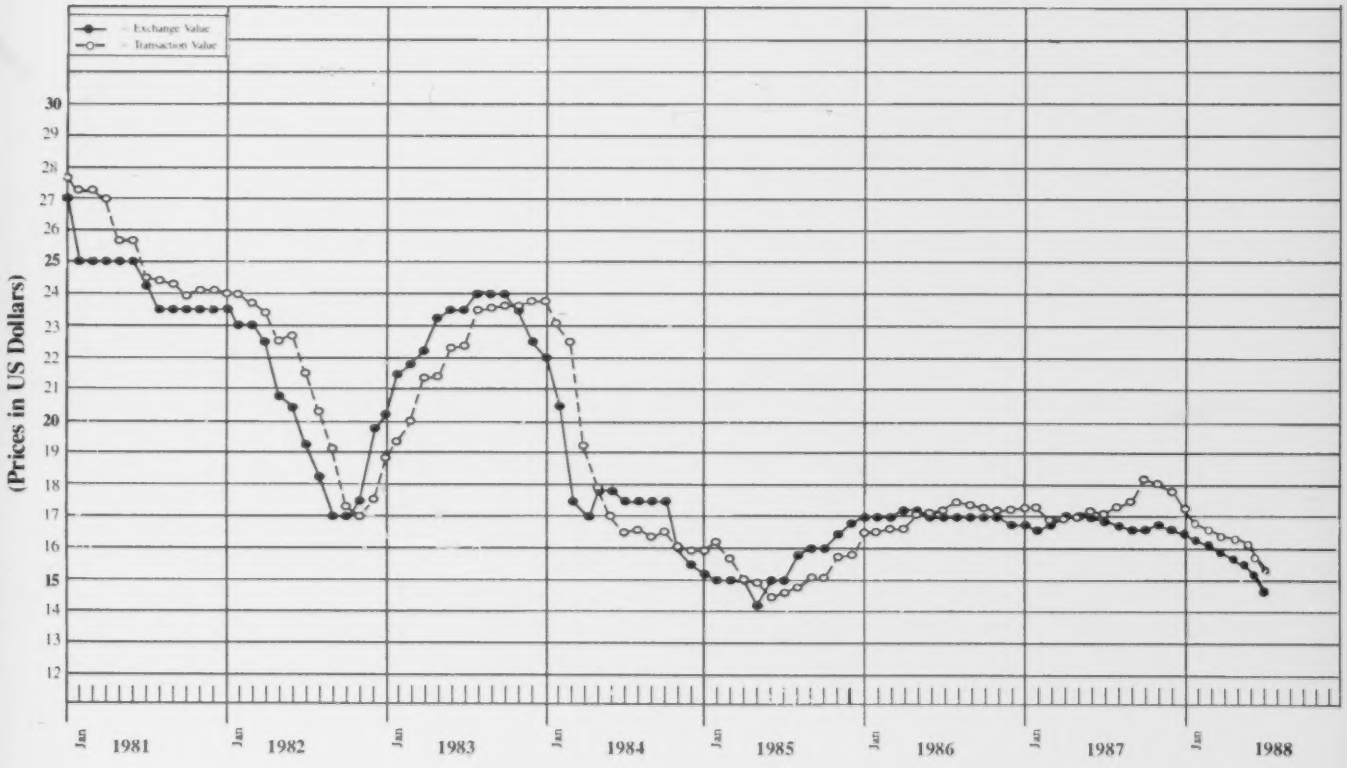
HISTORICAL MARKET DATA





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US URANIUM MARKETING ACTIVITIES STATISTICS[1]
(Compiled from data published by the US Energy Information Administration)

Year	Total Production[2] (million pounds U_3O_8)	Deliveries to Domestic Utilities[3] (million pounds U_3O_8)	Average Price of Delivered Uranium ($/lb. U_3O_8)	Quantity of Uranium Imported[4] (million pounds U_3O_8)	Average Price of Imported Uranium ($/lb. U_3O_8)	Quantity of Uranium Exported (million pounds U_3O_8)
1976	25.5	n/a	n/a	3.6	n/a	1.2
1977	29.9	n/a	n/a	5.6	n/a	4.0
1978	37.0	n/a	n/a	5.2	n/a	6.8
1979	37.5	33.0[5]	$23.85[5]	3.0	n/a	6.2
1980	43.7	35.0[5]	$28.15[5]	3.6	$43.10	5.8
1981	38.5	32.6[5]	$34.65[5]	6.6	$32.90	4.4
1982	26.9	27.1	$38.37	17.1	$27.23[6]	6.2
1983	21.2	24.2	$38.21	8.2	$26.16	3.3
1984	14.9	22.5	$32.65	12.5	$21.86	2.2
1985	11.3	21.7	$31.43	11.7	$20.08	5.3
1986	13.5	18.9	$30.01	13.5	$20.07	1.6
1987	13.1P		$27.45P	14.0P	$19.31P	

P = Preliminary

[1]Sources: 1979: US Department of Energy, Assistant Secretary for Resource Applications, Office of Uranium Resources and Enrichment, *Survey of United States Uranium Marketing Activity*, DOE/RA-0053 (Washington DC, July 1980). 1980-1981: US Department of Energy, Assistant Secretary for Nuclear Energy, Office of Uranium Enrichment and Assessment, *Survey of United States Marketing Activity*, DOE/NE-0013 and DOE/NE-0013/1 (Washington DC, June 1981 and July 1982). 1982: Energy Information Administration, *1982 Survey of United States Marketing Activity*, DOE/EIA-0403 (Washington DC, September 1983). 1983: Energy Information Administration, *Survey of United States Marketing Activity 1983*, DOE/EIA-0403(83) (Washington DC, August 1984). 1984: Energy Information Administration, Form EIA-858, "Uranium Industry Annual Survey" (1984). 1985: Energy Information Administration, Form EIA-858, "Uranium Industry Annual Survey" (1985).

[2]Sources: 1976-11982: US Department of Energy, Grand Junction Area Office, *Statistical Data of the Uranium Industry*, GJO-100 (Grand Junction, Colorado, January 1983). 1983: Calculated by the staff of the Nuclear and Alternate Fuels Division, Office of Coal, Nuclear, Electric and Alternate Fuels, Energy Information Administration, from US Department of Energy, Grand Junction Area Office data files. 1984: Energy Information Administration, Form EIA-858, "Uranium Industry Annual Survey" (1984). 1985: Energy Information Administration, Form EIA-858, "Uranium Industry Annual Survey" (1985).

[3]Excludes direct imports by domestic utilities.

[4]Includes imports by domestic utilities and domestic suppliers.

[5]Includes delivery commitments to domestic utilities and agents.

[6]Computation of quantity-weighted average price excludes the quantity associated with a large exchange (swap) transaction that occurred in 1982.

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HISTORICAL MARKET DATA

VOLUME AND PRICE OF URANIUM DELIVERIES TO THE EUROPEAN COMMUNITY[1]
(Compiled from data published by the Euratom Supply Agency)

Year	Volume of Deliveries to the EC[2] (in MTU)	Percentage of Deliveries Made Under Spot Contracts	Medium or Long-Term Contracts[3,4]		Spot Contracts[3,4]	
			Average Price in ECU per pound U_3O_8	Average Price in US Dollars per pound U_3O_8	Average Price in ECU per pound U_3O_8	Average Price in US Dollars per pound U_3O_8
1977	n/a	n/a	n/a	n/a	n/a	$41.00
1978	n/a	n/a	n/a	n/a	n/a	$43.00
1979	10,000	n/a	n/a	n/a	n/a	$44.50
1980	8,600	n/a	n/a	$36.00	n/a	$35.00
1981	13,000	less than 10	n/a	$33.25	n/a	$28.00
1982	12,500	less than 10	ECU 32.25	$32.00	ECU 24.25	$24.00
1983	13,500	less than 10	ECU 34.75	$31.00	ECU 26.00	$23.25
1984	11,000	less than 10	ECU 37.75	$29.75	ECU 24.50	$19.25
1985	11,000	11.5	ECU 38.00	$29.00	ECU 19.50	$15.00
1986	12,000	9.5	ECU 31.50	$31.00	ECU 18.00	$17.75

[1]The twelve European Community member nations are Belgium, Denmark, France, the Federal Republic of Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, and the United Kingdom; prior to January 1986, Spain and Portugal were not members of the EEC.
[2]The only deliveries taken into account are those made to final users, namely the electric utilities or their procurement organizations; deliveries to middlemen or fuel cycle companies are not included. The sales between utilities in the Community are also excluded. The quantities covered are those which were entered into accounting records during the year stated.
[3]For deliveries made under medium or long-term contracts (i.e., for which the time between the date of signature and the date of the last delivery exceeds one year) the prices were expressed in seven different currencies. In order to calculate an average price, these prices have been converted into European Currency Units (ECU) and US dollars. The average prices were weighted by quantity and converted on the basis of the average annual exchange rate of the different currencies against the ECU and US dollar.
[4]Exchange rates are published by European Communities Statistical Office and the International Monetary Fund.

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AUSTRALIA

		Consumer Price Index[1] (1980/1981 = 100)	Price Index of Materials Used in Manufacturing Industry — All Groups[2] (1984/1985 = 100)	Award Rates of Pay Indexes Australia - Adult Males In Mining Wage Earners, Weekly Rates[3] (June 1976=100)
1975	Avg.[4]	57.9	36.3	82.1
1976	Avg.	65.7	40.7	99.7
1977	Avg.	73.8	46.3	110.8
1978	Avg.	79.7	52.0	117.7
1979	Avg.	86.9	69.5	127.9
1980	Avg.	95.8	83.1	140.8
1981	Avg.	105.0	85.9	154.1
1982	Avg.	116.7	89.0	174.9
1983	Avg.	128.5	96.9	181.9
1984	Avg.	133.6	98.0	194.4
1985	Avg.	142.6	107.3	198.7 (Jan - May) 101.1 (Jun - Dec)[5]
1986	Avg.	155.5	101.5	104.9
1987	Avg.	168.7	108.9	—
Jan	1987	—	106.2	108.8R
Feb	1987	—	108.9	108.8R
Mar	1987	164.7	108.4	111.7R
Apr	1987	—	108.3	111.7R
May	1987	—	108.1	111.7R
June	1987	167.2	108.1	111.8R
July	1987	—	108.7	111.9R
Aug	1987	—	110.5	111.9R
Sep	1987	170.0	109.3	112.1R
Oct	1987	—	108.6	112.2R
Nov	1987	—	110.0	112.2R
Dec	1987	172.9	111.9	112.3R
Jan	1988	—	112.4	—
Feb	1988	—	112.3	—
Mar	1988	176.0	112.3	—
Apr	1988	—	112.4	—

P = Preliminary **R** = Revised since last month

[1]Weighted average of six State capital cities (1975 to 1980), and eight capital cities from 1981 (Base: Financial year July 1980 to June 1981 =100.0). Figures shown at end of quarter represent quarterly average.
[2]Australian Bureau of Statistics, Canberra: "Price Index of Materials Used in Manufacturing Industry" (Catalogue No. 6411.0).
[3]Australian Bureau of Statistics, Canberra: "Award Rates of Pay Indexes, Australia" (Catalogue No. 6312.0). Figures for the latest fourteen months shown are subject to revision.
[4]Monthly data for the period 1967 to 1986 appear in Report 233.
[5]Base: June 1985 = 100 and includes salary earners as well as wage earners.

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GOVERNMENT STATISTICS

CANADA

		Industrial Products Price Index: All Commodities[1] (1981 = 100)	Consumer Price Index: All Items (1981 = 100)	Wage-earner Data: Average Hourly Earnings (C$)[2]				
				Uranium Mines (SIC 057)	Metal Mines (SIC 051-059)	Mines, Quarries and Oil Wells[3] (SIC 051-099)	Metal Rolling, Casting and Extruding (SIC 298)	Chemicals and Chemical Products Industries (SIC 372-379)
1979	Avg.	80.0	80.7	—	—	—	—	—
1980	Avg.	90.7	88.9	—	—	—	—	—
1981	Avg.	100.0	100.0	—	—	—	—	—
1982	Avg.	106.7	110.8	—	—	—	—	—
1983	Avg.	110.4	117.2	17.22	—	14.18	10.67	11.10
1984	Avg.	115.4	122.3	17.89	—	14.97	11.11	11.68
1985	Avg.	118.6	127.2	18.53	16.48	15.56	11.85	12.12
1986	Avg.	119.6	132.4	19.38	16.70	15.76	12.28	12.58
Jan	1987	120.0	135.2	19.53	16.93	16.03	12.58	12.89
Feb	1987	119.8	135.8	20.33	17.20	16.21	12.66	13.11
Mar	1986	120.4	136.4	20.04	17.14	16.15	12.58	13.02
Apr	1987	121.2	137.0	20.47	17.38	16.26	11.99	13.27
May	1987	122.0	137.8	20.50	17.12	15.96	11.44	13.19
June	1987	122.5	138.2	20.23	16.94	15.70	12.77	12.88
July	1987	123.2	139.2	19.75	16.73	15.63	12.52	12.98
Aug	1987	123.8	139.3	19.64	16.98	15.87	12.65	13.03
Sep	1987	124.1	139.3	19.85	17.20	16.25	12.57	13.40
Oct	1987	124.5	139.8	20.06	17.31	16.33	13.01	13.37
Nov	1987	125.1	140.4	20.47	17.50	16.50	12.63	13.53
Dec	1987	125.5	140.5	20.62	17.31	16.37	12.54	13.75
Jan	1988	126.4	140.8	20.70	17.54	16.65	12.82	13.73
Feb	1988	125.9R	141.3	20.94	17.97	17.07	13.01	13.69
Mar	1988	126.2R	142.0	20.55	17.88	16.78	13.10	13.62
Apr	1988	126.8R	142.5	20.03R	18.50R	15.92R	13.32R	13.66R
May	1988	127.2R	143.4	22.47P	18.59P	16.11P	13.33R	13.58P
Jun	1988	127.1	143.6	—	—	—	—	—

P = Preliminary **R** = Revised since last month

[1]Statistics Canada, Prices Division, Ottawa: "Industry Price Indexes" (Catalogue 62-011). Indexes for the most recent six months shown are subject to revision. This category was formerly known as "Manufacturing." Monthly data for the period 1967 to 1986 is found in Report 233.
[2]Statistics Canada, Labour Division, Employment and Payrolls Section, Ottawa: "Employment, Earnings and Hours." Monthly data for the period 1983 to 1986 is found in Report 233.
[3]Reports 175 through 185 list this series title incorrectly as "Metal Mining, Including Milling (SIC 050-099)."

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REPUBLIC OF SOUTH AFRICA

		Average Declared Working Costs per Metric Ton of Gold Ore Milled (Rand)[1]	Tonnage-Weighted Index of Average Working Costs per Metric Ton of Gold Ore Milled (March 1982 = 100)[2]	Consumer Price Index[3] (1985 = 100)	Production Price Index All Groups[4] (1980 = 100)	Total Employment in Mining and Quarrying[5]	Total Salaries and Wages in Mining and Quarrying (1,000 Rand)[5]
1975	Avg.	16.71	—	29.4	52.1	639,473	1,003,217
1976	Avg.	19.30	—	32.7	59.9	671,240	1,212,983
1977	Avg.	23.87	—	36.3	67.7	712,006	1,420,670
1978	Avg	27.14	—	40.3	74.3	658,261	1,502,975
1979	Avg.	30.18	—	45.6	85.6	686,599	1,795,638
1980	Avg.	35.53	—	51.9	100.0	709,042	2,237,689
1981	Avg.	41.89	—	59.8	113.6	722,918	2,756,928
1982	Avg.	47.25	104.2	68.6	129.4	702,041	3,181,584
1983	Avg.	51.88	115.0	77.1	143.1	700,901	3,563,282
1984	Avg.	58.95	130.3	86.0	155.1	711,511	4,134,390
1985	Avg.	68.76	151.6	100.0	181.2	724,587	4,778,612
1986	Avg.	80.22	177.9	118.6	216.6	756,637	5,767,950
1987	Avg.	—	—	137.7	246.8	750,256	—
Jan	1987	—	—	128.9	233.9	750,496	529,682
Feb	1987	—	—	130.3	237.0	758,230	600,258
Mar	1987	88.17	197.1	132.4	239.6	763,003	536,033
Apr	1987	—	—	134.1	242.5	765,309	535,876
May	1987	—	—	135.6	243.6	761,026	531,732
Jun	1987	90.74	203.5	136.6	244.9	763,319	571,407
July	1987	—	—	138.2	246.8	764,810	624,954
Aug	1987	—	—	140.2	249.9	761,338	564,387
Sep	1987	100.79	224.7	142.0	252.4	742,417	587,707
Oct	1987	—	—	143.6	255.5	725,599	599,116
Nov	1987	—	—	144.8	256.3	734,630	616,725
Dec	1987	100.34	267.0	145.9	258.3	712,896	613,262
Jan	1988	—	—	147.2	261.5	711,983	615,889
Feb	1988	—	—	148.2	265.7	730,313	619,159
Mar	1988	102.96	234.0R	150.2	268.4	—	619,117
Apr	1988	—	—	151.9	272.7	—	621,757
May	1988	—	—	153.1	276.1	—	—
Jun	1988	—	—	153.6	—	—	—

P = Preliminary **R** = Revised since last month

[1]Chamber of Mines of South Africa, Johannesburg: "Analysis of Working Results," published quarterly. Historical Data by month appears in Report 236.

[2]Page 16 of Report 178 contains description and calculation of index, and page 24 of Report 178 lists figures for 1982.

[3]Central Statistical Service, Pretoria: All income groups-weighted average, Historical Data by month appears in Report 236.

[4]Central Statistical Service, Pretoria: All commodities for consumption in South Africa.

[5]Central Statistical Service, Pretoria: Historical Data by month appears in Report 236.

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GOVERNMENT STATISTICS

UNITED STATES

		Producer Price Index[1]		Consumer Price	GNP Implicit Price	Gross Average Hourly Earnings of Production or Non-supervisory Workers (US$)[4]			
		Industrial Commodities (1982 = 100)	All Commodities (1982 = 100)	Index[2] (1982-1984 = 100)	Deflator[3] (1982 = 100)	Metal Mining (SIC 10)	Primary Non-ferrous Metals (SIC 333)	Chemicals and Allied Products (SIC 28)	Electric and Electronic Equipment (SIC 36)
1980	Avg.	88.0	89.8	82.4	85.7	10.26	10.63	8.30	6.94
1981	Avg.	97.4	98.0	90.9	94.0	11.55	11.98	9.12	7.62
1982	Avg.	100.0	100.0	96.5	100.0	12.31	12.93	9.96	8.21
1983	Avg.	101.1	101.3	99.6	103.9	12.58	13.43	10.58	8.67
1984	Avg.	103.3	103.7	103.9	107.7	13.05	13.43	11.07	9.04
1985	Avg.	103.7	103.2	107.6	111.2	13.38	13.74	11.56	9.46
1986	Avg.	100.0	100.2	109.6	114.1	12.46R	13.48R	11.98	9.65
1987	Avg.	102.6	102.8	113.6	—	12.52	12.98	12.37	9.88
Jan	1987	100.4	100.5	111.2	—	12.72R	12.96R	12.17R	9.82R
Feb	1987	100.8	101.0	111.6	—	12.63R	12.80R	12.21	9.82R
Mar	1987	101.1	101.2	112.1	116.1	12.58R	12.76R	12.24	9.82R
Apr	1987	101.6	101.9	112.7	—	12.51R	12.84R	12.30	9.81R
May	1987	101.9	102.6	113.1	—	12.50R	12.87R	12.32R	9.81R
Jun	198	102.4	103.0	113.5	117.2	12.52R	12.88R	12.28R	9.83R
Jul	1987	103.1	103.5	113.8	—	12.41R	13.02R	12.37	9.86R
Aug	1987	103.7	103.8	114.4	—	12.40R	13.01R	12.33R	9.98R
Sep	1987	103.5	103.7	115.0	117.8	12.50R	13.29R	12.56	9.94R
Oct	1987	104.0	104.1	115.3	—	12.42R	12.99R	12.50R	9.92R
Nov	1987	104.2	104.2	115.4	—	12.54R	13.11R	12.55R	9.98R
Dec	1987	104.1	104.1	115.4	118.7	12.60R	13.14	12.61R	10.03R
Jan	1988	104.3	104.5	115.7	—	12.77R	13.03R	12.55R	10.02R
Feb	1988	104.6R	104.8R	116.0	—	12.71R	12.96R	12.55	10.02R
Mar	1988	104.7	104.9	116.5	119.4	12.59R	13.17R	12.53R	10.04R
Apr	1988	105.6	105.8	117.1	—	13.08	13.17	12.57R	10.09R
May	1988	106.1	106.5	117.5	—	12.96P	13.09P	12.57R	10.12
Jun	1988	106.5	107.4	118.0	120.6	—	—	12.62P	10.13P

P = Preliminary **R** = Revised since last month

[1]US Bureau of Labor Statistics, Washington, D.C.: "Producer Prices and Price Indexes," (formerly "Wholesale Prices and Price Indexes"). Producer Price Indexes are revised four months after they are first released to reflect the availability of late reports and corrections by respondents. Historical data is presented in Report 233.

[2]US Bureau of Labor Statistics, Washington, D.C.: Consumer Price Index for All Urban Consumers, US City Average, All Items. Historical data is presented in Report 233.

[3]US Department of Commerce, Washington, D.C.: Bureau of Economic Analysis, National Income and Wealth Division: "Survey of Current Business." The GNP Implicit Price Deflator is published quarterly, and seasonally adjusted. Historical data is presented in Report 233.

[4]US Bureau of Labor Statistics, Washington, D.C.: "Employment and Earnings." All data based on 1972 revision of SIC Manual. Historical data is presented in Report 233.

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